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CONCEPTS OF BUSINESS EXECUTIVES AND UNION LEADERS

"AN ANALYSIS OF THE DIMENSIONS RELEVANT TO THE  
ATTITUDES EXPRESSED BY BUSINESS EXECUTIVES AND  
UNION LEADERS CONCERNING SELF AND EACH OTHER"

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE

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DIVISION OF BUSINESS POLICIES

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UNIVERSITY OF ALBERTA  
FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend  
to the Faculty of Graduate Studies for acceptance, a thesis  
entitled "Concepts of Business Executives and Union Leaders"  
submitted by Mervyn Norman Guy Eastman in partial fulfillment  
of the requirements for the degree of Master of Business  
Administration.





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## ABSTRACT

### CONCEPTS OF BUSINESS EXECUTIVES AND UNION LEADERS

Measures of the meanings of the concepts BUSINESS EXECUTIVE and UNION LEADER were obtained for each of two subject groups consisting of union leaders and business executives. The distinctive factors or dimensions of meaning were isolated, identified, and their relative importance measured.

The results indicated that a predominantly dynamistic dimension or characteristic attribute was present in the meanings obtained from both subject groups relative to both concepts, and that the meanings of BUSINESS EXECUTIVE and UNION LEADER were both contained within this general frame of reference.

Distinctive quantitative and qualitative differences appeared in the semantic structures of the four subject-concept groups. The most characteristic variation had to do with the number of significant factors which determined the meaning in each group.

Union subjects expressed 81% of all variation in meaning by the use of twelve factors, and the first three of these accounted for about 39% of the total variance. Business subjects utilized from thirteen to fifteen factors to express 80% of all variation in meaning, and the first three of these accounted for about 34% of total variance.







It is apparent that meaning in the union group is more tightly structured about a few prime factors, whereas in the business group the relative importance of these factors is changed and new factors are added to the meaning structure.

Also, the rank order of importance of factors is different from one group to another. The dynamism factor is paramount in the union group, but is second to the pertinacity and professional factors in the business group of subjects.

In summary, the meaning of the concepts BUSINESS EXECUTIVE and UNION LEADER is measurably different for the two subject groups studied, and this difference is both quantitatively and qualitatively determined.







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## CHAPTER I

### INTRODUCTION TO THE PROBLEM

Man behaves in accordance with his image of reality. He sees primarily that which fits his needs and his customary way of looking at events; and his actions are guided by the percepts he has acquired of the objects and people in his milieu.

Organizations like the union and the corporation come into existence because individuals have needs and goals which they cannot satisfy or attain as individuals. The organization provides them with the means to obtain these ends.<sup>1</sup>

While within the organization the person may make individual decisions, derived from uniquely personal desires, these decisions come under the influence of the group and are treated according to the formal rules or policies of the organization. Consequently, by virtue of its importance to the individual as a means or tool to obtain his personal ends, the organization has power to modify individual decisions, and may influence the person's motives as well as the means he selects to satisfy his motives.

Thus a uniform way of perceiving persons, objects, and situations develops among persons who share a common environment with common experiences; and differences in perception arise between groups as their experiences differ. The result may be that a union or a corporation

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1. Ross Stagner and Hjalmar Rosen, Psychology of Union-Management Relations, Belmont, Wadsworth, 1965.







and their officers will be perceived quite differently by people standing in different relations to them. To each person the "real" organization or person is what he sees it to be (to him this is reality) and his behavior is guided by his image.

Social psychological studies<sup>2</sup> have repeatedly shown that different attitudes are held by people who occupy different roles. These attitudes are generally organized around the person's image of himself and they result in stabilized characteristic ways of dealing with others. It is to be expected then that the effectiveness of business executives and union leaders in dealing with one another will depend to some extent on the salient characteristics of the image which each perceives of the other and projects of himself.

It is plain to see that misunderstanding can arise between persons and groups of persons as a result of different perceptions of the same environment. Such differences in perceived reality may precipitate industrial disputes simply because the facts look different to different participants, and what is more important, may give rise to disputes even in situations where needs and purposes are compatible.

By examining the images of business executives and union leaders this study will attempt to indicate what directions their efforts might take in order that their actions might be instrumental in bringing about more satisfying relations with each other.

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2. Bieri and Messerly, Friedman and Gladden, Haire, and Walker have reported on this problem. Their studies are documented in the bibliography.







## I. THE PROBLEM OF ATTITUDE MEASUREMENT

The analysis of the attitudes held by business executives and union leaders concerning themselves and each other is resolved into a problem of the definition, through description and measurement, of the meaning of the concepts of self and other held by each class of individual. If this definition can be made in such a way as to show the varied facets and nuances of the meaning then one may begin to make some statements about the attitudes embodied in such a meaning.

Numerous studies have been made of attitudes, perceptions, images, and stereotypes of businessmen, workers, and union leaders in efforts to arrive at scientific determinations. Some of these include Carter's studies of stereotypes; Dent and de la Paz's research on union security and management attitudes toward it; Roach's study of supervisory behavior; Stagner's extensive investigations of union-management relations, and the stereotypes of workers and executives; and Walker's study of executive and union leader perceptions of each other's attitudes toward industrial relations. These and other studies are documented in the bibliography. However, none of these studies has resulted in any really objectively quantitative measure of the image or conception which business executives and union leaders have of themselves and each other. That is the problem studied in the present work.

The question may therefore be stated as follows: "What do the concepts 'business executive' and 'union leader' mean to each of the







groups studied?"

The answer in turn is provided through the use of the semantic differential technique of measurement.

## II. THE RESEARCH PROBLEM

The problem of this study is to discover what the concepts "business executive" and "union leader" mean to each of two groups of business managers and union officials and to reveal some of the implications of the meanings for each group.

Many techniques have been used in attempts to define the attitudes or images which persons hold of people and things. Most of these have involved variations of scaling techniques. However it was not until Moser's psychometric study of meaning in 1941 that a really practical and quantitative scientific concept of attitude or image measurement was developed. Then in 1952 Charles E. Osgood published his conception of the nature of meaning and the measurement possibilities inherent. Since that time many researchers have applied Osgood's semantic differential approach to a wide variety of research problems, and many others have studied the technique with a view to evaluating it thoroughly and developing it further. Some of these researchers include Bieri, Husek and Wittrock, Kjeldergaard, Prothro and Keehn, Stagner and numerous others whose works are documented in the bibliography. However, the basic formulation has remained unchanged.







Therefore, the conceptual framework of the study will be drawn from recent theory on the measurement of meaning as proposed by Charles E. Osgood and his associates at the University of Illinois. In this approach the assumption is made that meaning, and to some extent attitudes, develop within a framework of a few principal dimensions and that these dimensions may be isolated, identified, measured, and described. To accomplish this Osgood utilizes the semantic differential and techniques of factor analysis and this method is applied in the present problem.

The research technique involves the administration of a semantic differential to selected populations of union leaders and business executives, and determining from the results what the dimensions of meaning are for each group. The nature and relative importance of each dimension is obtained and a general conception of the group images is determined.







## CHAPTER II

### THE EXPERIMENTAL DESIGN

This study involves administering the semantic differential to two different groups of subjects--one a business management group and the other a union leadership group; intercorrelating the values obtained on a number of scales; and computing eigenvalues and eigenvectors to determine the nature and dimensionality of the semantic space.

#### I. THE INSTRUMENT OF MEASUREMENT

The semantic differential instrument consists of forty-eight seven-step bipolar scales set in the format of Osgood's graphic Form II.<sup>3</sup> Most of the scales were selected from lists of those used by Osgood and other researchers (and for which factorial structure had been determined), and some were included on the basis of a priori reasoning (selected primarily

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3. See Appendix A for the semantic differential questionnaire used in this study.







because they were found to recur in descriptions given of business executives and union leaders) and because it was thought these might lead to the definition of factors other than those given by Osgood.

Selection was made in such a way as to give approximately equal representation to each of the assumed major factors (evaluation, potency, and activity) which Osgood and others found regularly reappearing in their studies. The forty-eight scales finally selected and employed, and the factors they were believed to represent are listed in Table I.

In the measurement questionnaire each scale presents a seven-step progression from one polar term to its opposite. The use of seven alternatives was prompted by results of repeated experiments by other researchers<sup>4</sup> which indicated that with seven alternatives all of them tended to be used with roughly equal frequency.

Each alternative or step is assigned an arbitrary value, and the checkmarks made by the subjects are thereby scored according to which step in the scale is checked. The values are arranged in progression from one at extreme left to seven at extreme right.

The scales are presented in an order which randomizes the order of the factors presumably measured by each item. In addition, the

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4. R. Stagner and C. E. Osgood, "Impact of War on a Nationalistic Frame of Reference: I. Changes in General Approach and Qualitative Patterning of Stereotypes," Journal of Social Psychology, Vol. 24, 1946, pp. 187-215.







TABLE I

SEMANTIC SCALES AND THE FACTORS THEY ARE BELIEVED TO REPRESENT

Scale No.	Scale			Factor Represented
1	strong	-	weak	Potency
2	courteous	-	impolite	Activity
3	humorous	-	serious	Potency
4	important	-	trivial	Evaluative
5	fair	-	unfair	Evaluative
6	modern	-	backward	Potency
7	candid	-	deceitful	Evaluative
8	successful	-	unsuccessful	Potency
9	optimistic	-	pessimistic	Evaluative
10	moderate	-	violent	Activity
11	ethical	-	unethical	Evaluative
12	large	-	small	Potency
13	advancing	-	declining	Activity
14	complex	-	simple	Activity
15	flexible	-	rigid	Potency
16	aggressive	-	defensive	Activity
17	competent	-	incompetent	Potency
18	calm	-	excitable	Activity
19	cooperative	-	competitive	Potency
20	sophisticated	-	naive	Evaluative
21	productive	-	unproductive	Potency
22	friendly	-	hostile	Activity
23	leading	-	following	Activity
24	honest	-	dishonest	Evaluative
25	intelligent	-	stupid	Evaluative







TABLE I (Continued)

Scale No.	Scale			Factor Represented
26	responsible	-	irresponsible	Evaluative
27	enthusiastic	-	apathetic	Activity
28	democratic	-	autocratic	Evaluative
29	cautious	-	rash	Activity
30	constructive	-	destructive	Activity
31	soft	-	hard	Potency
32	professional	-	amateur	Potency
33	considerate	-	inconsiderate	Evaluative
34	knowledge- able	-	ignorant	Potency
35	warm	-	cool	Activity
36	active	-	passive	Activity
37	good	-	bad	Evaluative
38	predictable	-	unpredictable	Evaluative
39	objective	-	opinionated	Evaluative
40	energetic	-	indolent	Activity
41	accurate	-	inaccurate	Potency
42	positive	-	negative	Evaluative
43	innovating	-	stagnating	Activity
44	fast	-	slow	Activity
45	lax	-	domineering	Potency
46	congenial	-	quarrelsome	Evaluative
47	efficient	-	inefficient	Potency
48	persistent	-	complacent	Potency







direction of polarity in the scales has been alternated to prevent the formation of position references.

The design of the instrument is such that it is easily administered to a group of subjects in fifteen minutes.

## II. THE SAMPLE

The semantic differential was administered to one hundred and three subjects consisting of two groups as follows: fifty-four business executives attending the Banff School for Advanced Management (November 1965 session), representing the entire enrollment and providing a broad cross section of Canadian industry and firms; and forty-nine union leaders attending a leadership conference at the Banff School of Fine Arts (December 1965) and also representing a broad cross section of Western Canadian unions.

The hypothesis is put forth that distinctly different semantic structures of the concepts BUSINESS EXECUTIVE and UNION LEADER obtain between the two groups. It was reasoned that analysis of the results obtained on the semantic differential would reveal specific quantitative and qualitative differences and/or similarities in the meanings expressed. It was expected that subjects defining a concept of the opposite group would







tend to define that concept in bold, comparatively extreme, and dogmatic terms, but that subjects defining the concept of their own group would demonstrate more moderate and more complex semantic structuring of that concept.

### III. THE PROCEDURE

The semantic differential was administered by the researcher to each group of subjects meeting in regular plenary session. In each instance the ratings were completed in the single session with the subjects.

In order to make the exercise as meaningful as seemed feasible the semantic differential was introduced in the following manner. Subjects were given to understand that the questionnaire was a form of scientific research tool designed to provide objective information in studies in the social sciences. They were asked to make ratings of BUSINESS EXECUTIVE and UNION LEADER on each of the forty-eight scales. In making these ratings they were asked to think of business executives as top administrative and/or policy making personnel, and to think of union leaders as union officers, executive board members or higher officials. In both cases they were to think of business executives and union leaders







in-general rather than of specific individuals as such.

The researcher emphasized the importance of using the scales correctly and read the instructions on Page 1 of the form with the subjects, after which the subjects made their ratings.

No time limits were set but both groups completed their ratings easily within fifteen minutes.

Every response (indicated by a checkmark on a rating scale) was assigned a value, according to the method described above. These values constituted the raw score data which was then transferred to IBM punched cards for electronic machine processing.<sup>5</sup> The cards were processed at the University of Alberta's Data Processing Centre.

#### IV. NUMERICAL ANALYSIS

The responses made on the forty-eight scales of the semantic differential were intercorrelated so that a symmetric matrix of order 48, composed of Pearson product moment correlation coefficients was available for each concept for each group of subjects.

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5. The data was processed according to the method described by H. F. Kaiser, "The Application of Electronic Computers to Factor Analysis," Educational Psychological Measurement, Vol. 20, 1960, pp. 187-200.







Factor analysis was obtained by computing eigenvalues and eigenvectors for each matrix. The size and number of latent roots with values equal to or greater than "one" was observed and thus the predominant and most significant factors of meaning were determined for each concept and subject group.

To obtain "simple structure" as defined by Thurstone the factors in each concept-group were rotated according to the varimax criterion.<sup>6</sup> The rotated axes thus established constituted the basis of the factorial interpretations.

Since the number of significant dimensions was less than the number of scales, analysis was based upon those scales which measured predominantly a particular dimension.

Graphic plots were made of the most significant factors in each concept-group. These plots give some indication of the relationship of each semantic scale with a particular factor. They also present a graphic illustration of the adequacy of an orthogonally designed system of dimensions.

The results are described and compared, both quantitatively and qualitatively for each concept-group.

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6. H. F. Kaiser, "The Variance Criterion for Analytic Rotation in Factor Analysis," Psychometrika, Vol. 3, 1958, pp. 187-200.







## CHAPTER III

### FINDINGS

#### I. EXTRACTION OF FACTORS

The results of the subjects' ratings of the concepts BUSINESS EXECUTIVE and UNION LEADER were observed for each subject group. A preliminary review of the scores obtained on each semantic scale revealed that the means of the scores were not at the centre of the scales. This would indicate that the semantic scales employed in the measuring instrument were relevant to the concept being judged. In other words, the subjects demonstrated that they could make meaningful judgments of business executives and union leaders by the use of each scale of the semantic differential.

The scores obtained from the semantic scales for each concept were intercorrelated for each subject group, and the factor analysis was accomplished by computing eigenvalues and eigenvectors for each matrix of correlations. Initially each principal axis (or factor) which had an

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. See Appendix B for raw scores, mean scores, standard deviations, and unrotated eigenvectors and eigenvalues.







eigenvalue equal to or greater than "one" was considered significant and was extracted for study.

In the Business Group's ratings of BUSINESS EXECUTIVE there were fifteen such significant factors with latent roots ranging in value from 11.468 to 1.016 and accounting for 81% of the total measured variance in scale scores. In the ratings of UNION LEADER there were thirteen such factors with a range of values from 11.980 to 1.017 and accounting for 79% of the total measured variance in scale scores.

In the Union Group's ratings of BUSINESS EXECUTIVE there were twelve significant factors with a range of values from 16.552 to 1.076 and accounting for 81% of the total measured variance; and in the ratings of UNION LEADER there were also twelve factors with a range of values from 14.608 to 1.036 and accounting for 80% of total measured variance in scale scores.

The individual factors and the values of each are given in Table II for all four subject-concept groups.

Since the meaning of a concept (BUSINESS EXECUTIVE or UNION LEADER) is defined by the relationships expressed by the correlations between scales, the variance accounted for by each dimension expresses the degree to which the dimension accounts for the observed variability of the scales. Therefore it is apparent that for each subject population as







TABLE II  
FACTORS WITH EIGENVALUES GREATER THAN UNITY

Factor	Subject-Concept Group			
	Business		Union	
	Bus. Exec.	Union Ldr.	Bus. Exec.	Union Ldr.
1	11.468	11.980	16.552	14.608
2	4.946	6.930	4.964	5.620
3	2.825	3.444	2.731	3.447
4	2.591	2.877	2.302	2.890
5	2.345	1.971	2.179	2.079
6	2.158	1.884	1.895	1.914
7	1.880	1.652	1.783	1.752
8	1.741	1.505	1.602	1.401
9	1.582	1.430	1.467	1.235
10	1.371	1.194	1.305	1.153
11	1.329	1.120	1.117	1.125
12	1.266	1.079	1.076	1.036
13	1.165	1.017		
14	1.084			
15	1.016			
% of Total Variance	81%	79%	81%	80%







a whole, approximately a dozen factors account for a very large proportion of the total variance in meaning. Almost one-half of this variance is attributed to the first three factors in each subject-concept grouping. Since each succeeding factor accounts for progressively less variance and the fourth factor generally accounts for about one-twentieth of the total variance, the factors following the third one do not appear to be individually significant. Consequently the present analysis is limited to the three largest factors in each subject-concept group.

Examination of the scale scores prior to analytical rotation revealed some unexpected results. The scales characterizing each dimension did not form the well defined evaluative, potency, and activity groupings suggested by Osgood. Instead, each grouping exhibited such a mixture of scales that components of all of Osgood's major dimensions were identifiable in each of the factors extracted in this study.

In view of this result, an attempt was made to clarify the factorial structure by analytical rotation of the first ten principal axes.<sup>7,8</sup>

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7. Kaiser, op. cit.

8. Rotated communalities, scale loadings, and eigenvalues are given in Appendix C.







## II. THE VARIMAX ROTATION

The variance in total measured meaning accounted for by the five largest factors, after analytical rotation, ranged from 43% to 54% according to the concept and group of subjects involved. These factors and amounts of measured variance are presented in Table III. The largest of these factors and scale loadings obtained on each formed the basis of the analysis to follow.

### Concept of Business Executive Held by Union Group

The first five factors in this group account for 53% of the total variance. The first three of these account for 38% of variance and the examination of factors was limited to these three.

Factor I with a sum of squares of 8.578 accounts for 18% of total variance in meaning. The scales characterizing this factor are ENTHUSIASTIC, CONSTRUCTIVE, INNOVATING, GOOD, KNOWLEDGEABLE, ENERGETIC, POSITIVE, FAST, STRONG, LEADING, ADVANCING, WARM, INTELLIGENT, ACCURATE, and PREDICTABLE (with lesser loadings on ETHICAL, HONEST and COURTEOUS). The scales were selected on the basis of scale score and comparative semantic







TABLE III

VARIANCE ACCOUNTED FOR BY EACH FACTOR AFTER ROTATION

Factor	Sums of Squares of Loadings			
	Business Executive		Union Leader	
	Bus. Group	Union Group	Bus. Group	Union Group
1	6.390	8.578	9.892	7.531
2	4.260	5.382	4.836	7.269
3	3.901	4.291	3.211	4.002
4	2.990	3.768	2.934	3.992
5	2.989	3.349	2.735	3.142
% of Total Variance	42.7%	52.9%	49.2%	53.9%







purity--i.e. only scales with scores over .400 were included and only those with high scores on Factor I and low scores on other factors. These scales and their rotated loadings are listed in Table IV. Table IV also gives the scale communalities which represent the amount of variance of the scales which can be accounted for (or is contained) by the selected factor.

Although Table IV does not show it, Factor I scales are not factorially "pure" in the sense that they are independent of significance for all other factors. Nevertheless they exhibit significantly high loadings on Factor I with much lower loadings on other factors and therefore give this factor its distinctive characterization; and to the extent that these scales characterize Factor I rather than any other factor they may be considered valid indicators or measures of the quality of Factor I.

Reviewing the assumed factorial association of each scale (see Table I, pages 8 and 9) it is apparent that Factor I, unlike Osgood's first factor, is defined by evaluative, potency and activity scales. Consequently it cannot be fairly described in terms of only one of Osgood's three major dimensions of meaning but appears to represent a different dimension having components of all three of Osgood's factors.

An interpretation of Factor I on the basis of the dimensions that the scales were thought to define, would indicate that this factor is primarily an activity-potency dimension. The activity emphasis is indicated by the selection of scales exhibiting the highest loading on this factor--







TABLE IV

LOADINGS OF SCALES DEFINING FACTOR I

(Concept: 'Business Executive; Subjects: Union Group)

Scale No.	Communality	Scale Name	Varimax Loading
1	0.765	Strong (E)	0.611
2	0.678	Courteous (A)	0.369
11	0.794	Ethical (E)	0.394
13	0.743	Advancing (A)	0.556
23	0.715	Leading (A)	0.610
24	0.815	Honest (E)	0.391
25	0.789	Intelligent (E)	0.480
27	0.852	Enthusiastic (A)	0.865
30	0.796	Constructive (A)	0.798
34	0.772	Knowledgeable (P)	0.715
35	0.795	Warm (A)	0.543
37	0.933	Good (E)	0.743
38	0.790	Predictable (E)	0.406
40	0.876	Energetic (A)	0.714
41	0.680	Accurate (P)	0.420
42	0.716	Positive (E)	0.682
43	0.774	Innovating (A)	0.766
44	0.767	Fast (A)	0.647

Letter following scale name indicates assumed factorial association  
E = Evaluative, A = Activity, P = Potency







scales such as ENTHUSIASTIC, CONSTRUCTIVE, INNOVATING, ENERGETIC, FAST, LEADING, ADVANCING, and WARM. The potency component is evidenced by heavy loadings on STRONG, KNOWLEDGEABLE, and ACCURATE; and there is a small and less important evaluative component demonstrated by significant loadings on the GOOD and POSITIVE scales.

To complicate the matter further, Factors II and III also exhibit a mixture of potency, evaluative, and activity scales which leads one to the conclusion that Osgood's trilogy of terms is not very meaningful in the semantic structure of meaning for this subject-concept group. Consequently, a review of the significant scales contained by the first factor prompted a new label for this dimension. These scales appeared to characterize a quality of energy, force, vitality and action and so the first factor has been called the Dynamism factor. It appears that the single most important factor influencing the conception which union subjects have of business executives is a quality of energy and action.

In order to illustrate the relationship of each significant scale to Factor I as contrasted with Factors II and III, graphic plots of scale loadings are presented in Figures 1 and 2. Inspection of these graphs will reveal the configuration of points about the rotated axes and will demonstrate the degree of identity existing between scales and factors--thus







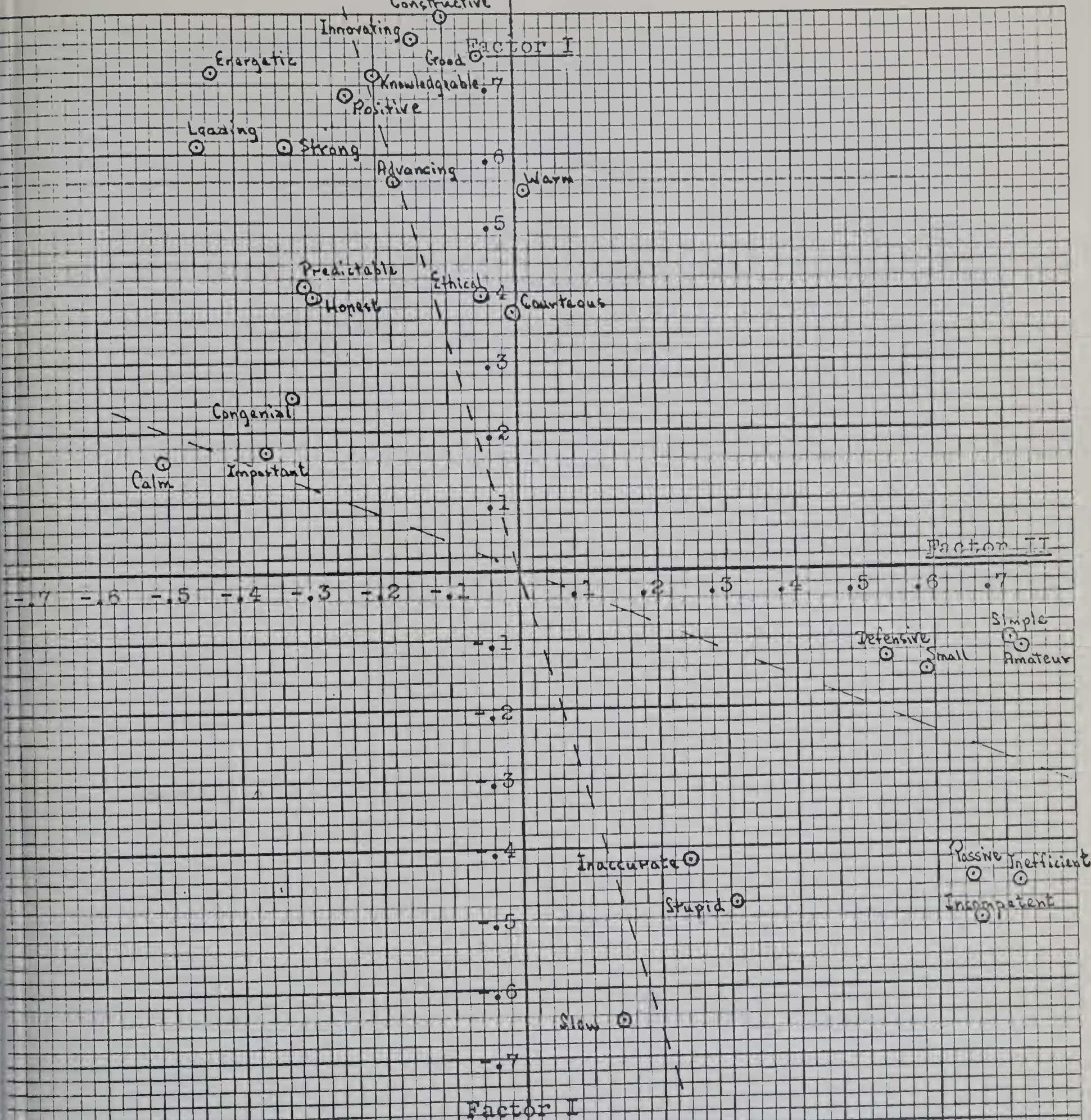


Figure 1. Semantic Scales and their Relations to Factors I and II for Concept of Business Executive held by Union Group.







Enthusiastic

- 24 -

Constructive

Factor I  
Innovating  
Energetic  
Knowledgeable  
Positive  
Warm  
Leading  
Advancing  
Strong

Ethical  
Predictable  
Honest  
Courteous

Hard

Domineering

Factor III

Persistent

Competitive

Opinionated

Rigid

Inconsiderate

Autocratic

Inaccurate

Stupid

Slow

Factor I

Figure 2. Semantic Scales and their Relations to Factors I and III for Concept of Business Executive held by Union Group.







providing an indication also of the successfulness of the factorization.

Factor II with a sum of squares of 5.382 accounts for 11% of total variance. The scales with highest loading values on this factor are PROFESSIONAL, EFFICIENT, COMPLEX, COMPETENT, ACTIVE, LARGE, AGGRESSIVE, and CALM (with lesser loadings on IMPORTANT and CONGENIAL). These scales with their rotated loadings and communalities are shown in Table V.

Again Osgood's nomenclature does not appear appropriate for Factor II and a review of the most important scales indicated they tended to exhibit a quality of proficiency and character and so this factor has been named the Professional factor.

The degree of relationship existing between scales and factor is graphically illustrated in the plots of Figures 1 and 3.

Factor III with a sum of squares of 4.291 accounts for 9% of total variance. The scales with heaviest loadings on this factor are HARD, DOMINEERING, PERSISTENT, RIGID, AUTOCRATIC, and INCONSIDERATE (with lesser loadings on COMPETITIVE and OPINIONATED). These scales and their rotated loadings and communalities are listed in Table VI.

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TABLE V  
LOADINGS OF SCALES DEFINING FACTOR II  
(Concept: Business Executive; Subjects: Union Group)

Scale No.	Communality	Scale Name	Varimax Loading
4	0.852	Important (E)	0.361
12	0.879	Large (P)	0.588
14	0.691	Complex (A)	0.705
16	0.769	Aggressive (A)	0.529
17	0.761	Competent (P)	0.661
18	0.797	Calm (A)	0.508
23	0.715	Leading (A)	0.455
32	0.863	Professional (P)	0.720
36	0.707	Active (A)	0.648
46	0.636	Congenial (E)	0.321
47	0.831	Efficient (P)	0.718

Letters following scale names indicate assumed factorial association.

Loadings have been reflected for facility in reading.







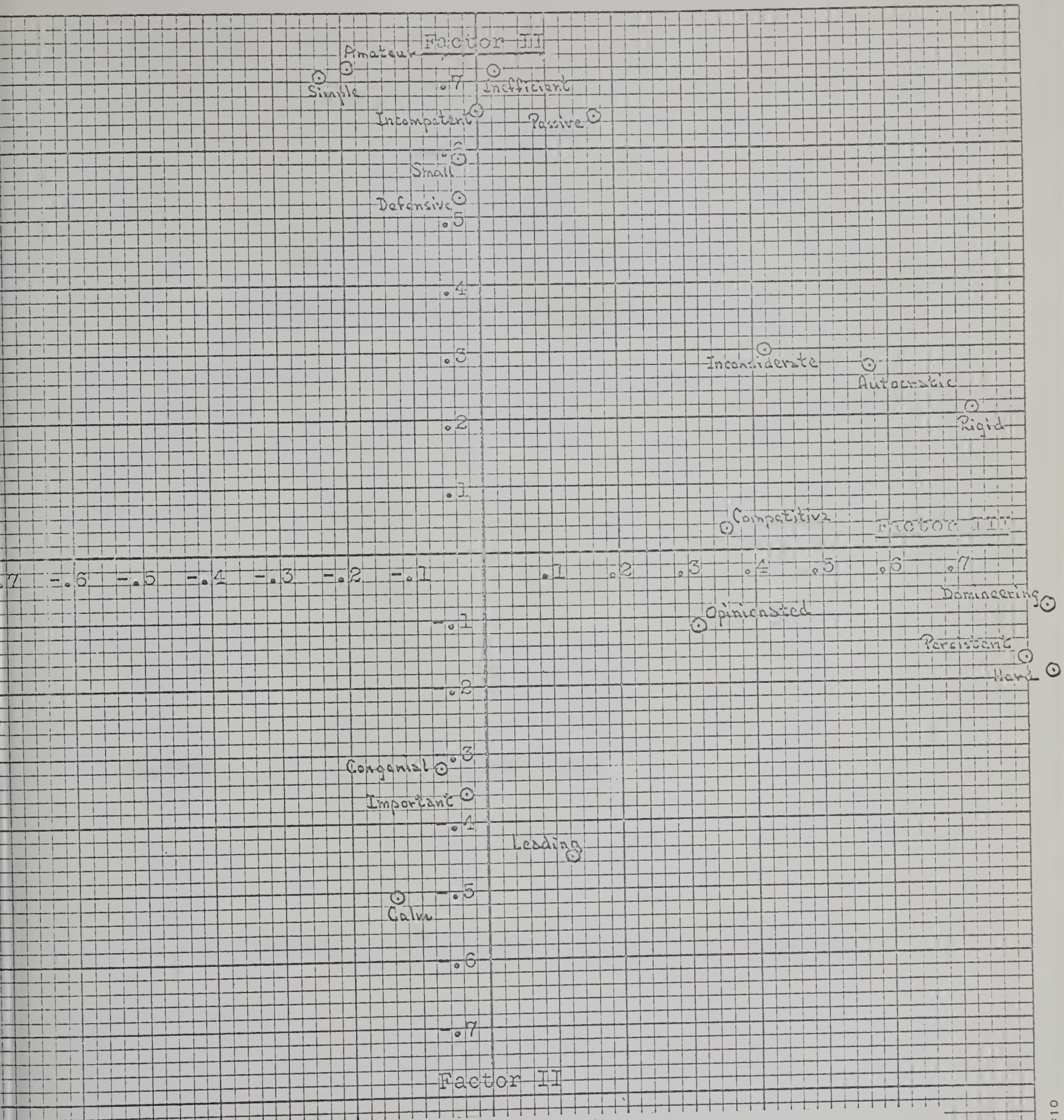


Figure 3 . Semantic Scales and their Relations to Factors II and III for Concept of Business Executive held by Union Group.







TABLE VI  
LOADINGS OF SCALES DEFINING FACTOR III  
(Concept: Business Executive; Subjects: Union Group)

Scale No.	Communality	Scale Name	Varimax Loading
15	0.717	Rigid (P)	0.722
19	0.609	Competitive (P)	0.357
28	0.808	Autocratic (E)	0.573
31	0.844	Hard (P)	0.835
33	0.801	Inconsiderate (E)	0.417
39	0.662	Opinionated (E)	0.312
45	0.769	Domineering (P)	0.831
48	0.837	Persistent (P)	0.795

---

Letters following scale names indicate assumed factorial association.







These scales appear to denote a quality of persistence, resoluteness, tenacity and obstinacy and so the third factor has been called the Pertinacity factor.

The degree of relationship existing between scales and factor is illustrated in the graphs of Figures 2 and 3.

In summary, the first three factors extracted in the Union group of subjects are different from Osgood's three major dimensions. While the characteristics of Osgood's dimensions appear as components of the actual factors found, at best they only tend to characterize those factors, not delimit them.

The Dynamism factor, which accounts for 18% of total variance, appears to be the most important dimension determining the meaning (or image) of business executives for the union subject group. The Professional factor is the second most important, accounting for 11% of variance; and the Pertinacity factor ranks third accounting for 9% of variance in meaning.

Together the three dimensions account for 38% of the total measured variance in the definition of the concept business executive and they appear to be controlling in characterizing that image for the union group.







Concept of Business Executive Held by Business Group

The first five rotated factors in this subject group accounted for 43% of the total measured variance and the first three of these accounted for 30% of the variance. These prime factors are examined below.

Factor I with a sum of squares of 6.390 accounts for 13% of total variance. The scales with the most significant loadings on this factor are CONSIDERATE, DEMOCRATIC, HONEST, COURTEOUS, FAIR, FRIENDLY, RIGID, CONSTRUCTIVE, ETHICAL, CONGENIAL, WARM, RESPONSIBLE, and HARD (with lesser loadings on MODERN and PREDICTABLE). These scales, their rotated loadings, and their communalities are listed in Table VII.

This factor appears to be primarily an evaluative dimension. Its evaluative nature is supported by the high loadings on such scales as CONSIDERATE, DEMOCRATIC, HONEST, FAIR, ETHICAL, CONGENIAL, and RESPONSIBLE. Even the modest activity component seen in the loadings on such scales as COURTEOUS, FRIENDLY, CONSTRUCTIVE, and WARM bear some evaluative connotation and therefore lend added weight to the heavy evaluative quality of the factor. The small potency component in the presence of moderately high loadings on the RIGID and HARD scales does not appear to be significant.







TABLE VII

LOADINGS OF SCALES DEFINING FACTOR I

(Concept: Business Executive; Subjects: Business Group)

Scale No.	Communality	Scale Name	Varimax Loading
2	0.711	Courteous (A)	0.641
5	0.653	Fair (E)	0.625
6	0.811	Modern (P)	0.297
10	0.680	Moderate (A)	0.623
11	0.685	Ethical (E)	0.543
15	0.621	Flexible (P)	0.575
22	0.785	Friendly (A)	0.605
24	0.769	Honest (E)	0.664
26	0.668	Responsible (E)	0.492
28	0.703	Democratic (E)	0.680
30	0.667	Constructive (A)	0.547
31	0.680	Hard (P)	0.417
33	0.805	Considerate (E)	0.813
35	0.610	Warm (A)	0.522
38	0.820	Predictable (E)	0.301
46	0.747	Congenial (E)	0.532

Loadings have been reflected for facility in reading.







Two explanations for the predominance of the evaluative element have been suggested (by Osgood and others)<sup>9</sup> as, first, a cultural semantic bias--i.e. a "natural" tendency to judge things in terms of goodness or badness; and secondly, a kind of cognitive scale-concept interaction where the meanings of scales can shift with the concepts being judged. Either or both of these may explain the highly evaluative judgment of business executives by the business group of subjects but a third explanation may lie in the fact of the ego-involvement of the subjects themselves.

It has been discovered in other studies that when a concept itself is highly evaluative there has often been scale interaction with the concept in such a way as to exaggerate the loadings of evaluative scales and to cause a shift in the meaning of other scales from potency or activity to an evaluative character. This may be what happened in the present instance.

An inspection of the scales characterizing Factor I, aimed at determining a more descriptive and meaningful name for it, revealed that this is not a clear dimension. It has distinct elements of Dynamism yet its principal scales suggest the qualities of considerateness, circumspectness, thoughtfulness, sympathy, maturity, attentiveness to others, and amiability, and it appears to be some kind of human relations dimension. Thus it is called the Considerateness factor.

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9. Osgood, op. cit., pp. 169 ff.







It is quite obvious from the outset that Factor I in the business group of subjects is quite different from Factor I in the union group of subjects. The latter one was called the Dynamism factor and was characterized primarily by an activity component and a lesser potency one. Hence it appears that the first and most important dimension in the semantic structure of meaning of the concept business executive is quite different for the union group than it is for the business group.

This difference will be examined again later in the study.

Graphic plots of the points representing scale loadings on Factor I are presented in Figures 4 and 5.

Factor II with a sum of squares of 4.260 accounts for 9% of total variance. The scales which best characterize this factor are POSITIVE, PERSISTENT, AGGRESSIVE, LARGE, GOOD, ENERGETIC, and PRODUCTIVE (with lesser loadings on ACTIVE, ENTHUSIASTIC, and CAUTIOUS). These scales with their rotated loadings and communalities are presented in Table VIII.

Factor II appears to be an activity-potency dimension although it has a significant evaluative component as well. The significant activity scales are AGGRESSIVE, ENERGETIC, ENTHUSIASTIC, and CAUTIOUS. The potency scales are PERSISTENT, LARGE, and PRODUCTIVE. Significant loadings on POSITIVE and GOOD give this factor its evaluative component. Closer inspection of the scales indicates a resemblance







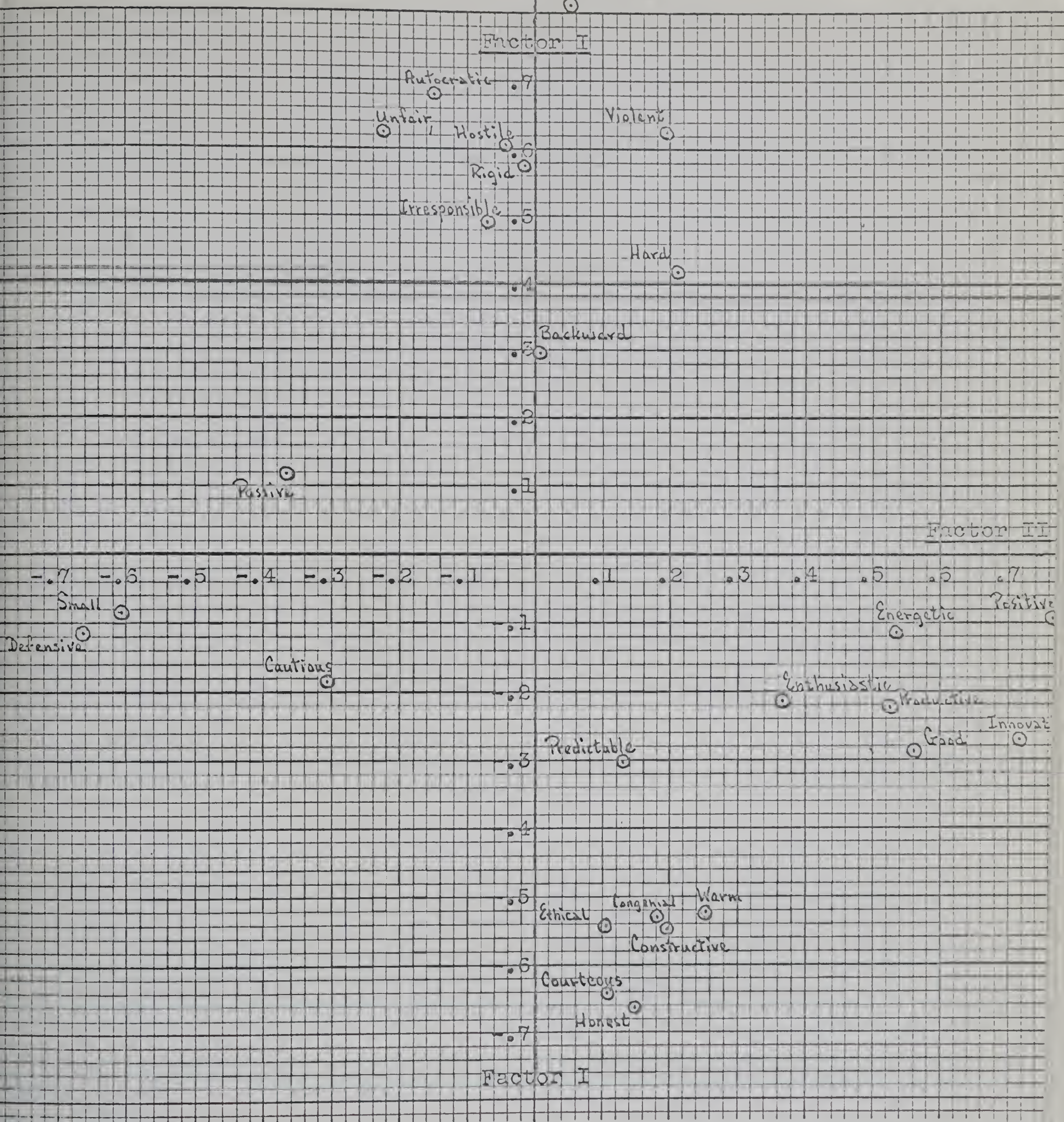


Figure 4. Semantic Scales and their Relations to Factors I and II for Concept of Business Executive held by Business Group.







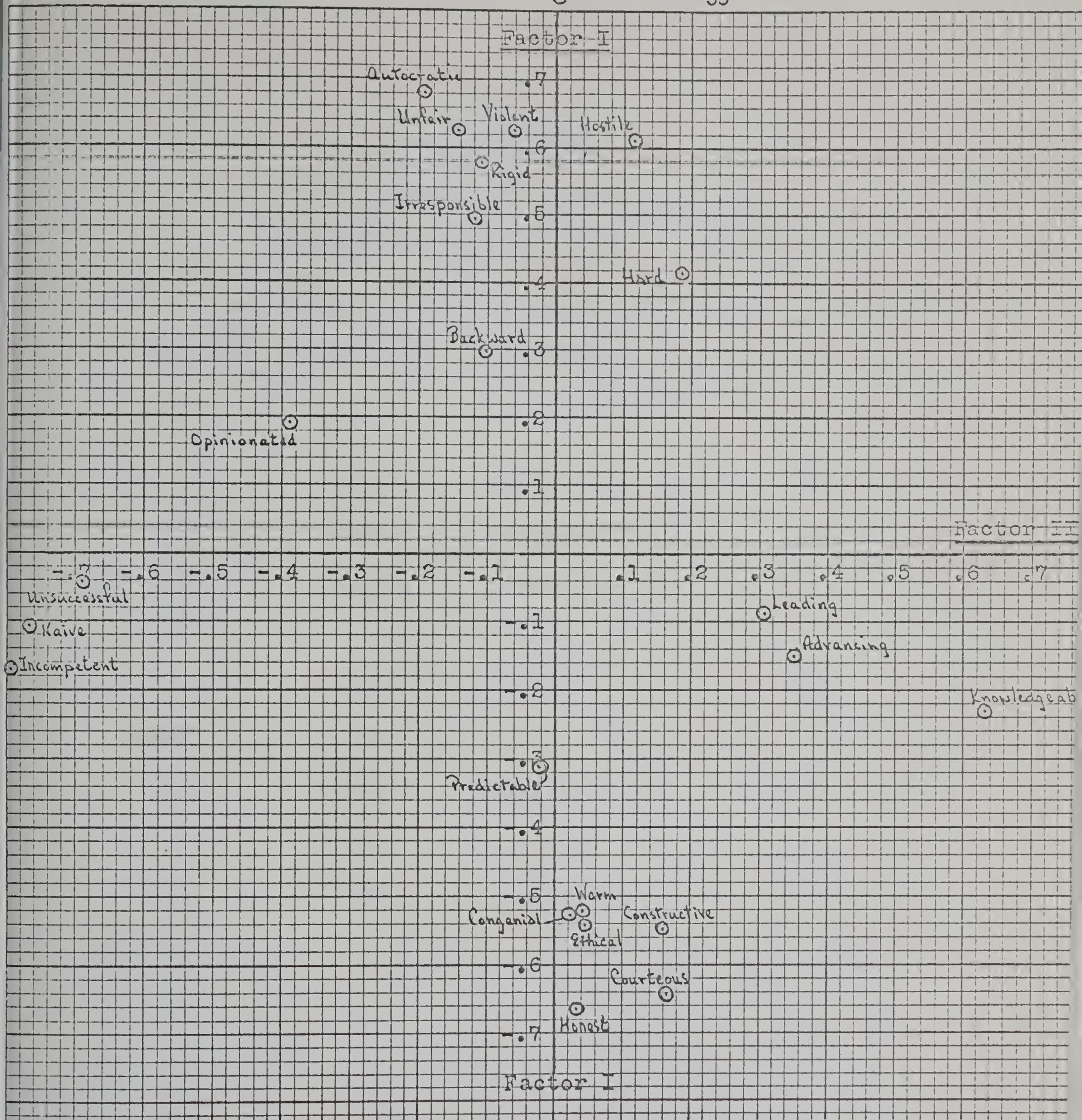


Figure 5. Semantic Scales and their Relations to Factors I and III for Concept of Business Executive held by Business Group.







TABLE VIII  
LOADINGS OF SCALES DEFINING FACTOR II  
(Concept: Business Executive; Subjects: Business Group)

Scale No.	Communality	Scale Name	Varimax Loading
12	0.472	Large (P)	0.605
16	0.814	Aggressive (A)	0.661
21	0.608	Productive (P)	0.523
27	0.584	Enthusiastic (A)	0.365
29	0.628	Rash (A)	0.304
36	0.667	Active (A)	0.368
37	0.685	Good (E)	0.560
40	0.724	Energetic (A)	0.536
42	0.844	Positive (E)	0.764
48	0.663	Persistent (P)	0.717







of this factor with Factor I in the union group and it is therefore appropriately called by the same name--i.e. the Dynamism factor. The similarity of these two factors was tested statistically by calculating a coefficient of congruence for them by the method employing sums of products.<sup>10</sup> This coefficient indicates the degree of similarity which exists between the two factors. The value obtained was 0.64, and from this it is apparent that the quality of meaning which is being measured is quite similar in both cases. A second test was made by the Kaiser factor match in which the cosine between reference axes is calculated and which value is a measure of correlation. The value obtained was .484 which though it is not high supports the findings by the first method. Thus it is evident that the Dynamism factor is important in the semantic structuring of the concept business executive (for both groups) but that its relative importance changes from one subject group to the other--i.e. it is first in importance for the union group but only second for the business group.

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10. The coefficient of congruence has been calculated by the formula according to the method described by Harry H. Harman in his book Modern Factor Analysis, Chicago, University of Chicago Press, 1960, pp. 256 - 259.

$$Q_{pq} = \frac{\sum_{i=1}^n 1^a_{ip} \cdot 2^a_{iq}}{\sqrt{\left(\sum_{i=1}^n 1^a_{ip}\right)\left(\sum_{i=1}^n 2^a_{iq}\right)}}$$







Graphic plots of scale loadings for Factor II are presented in Figures 4 and 6.

Factor III with a sum of squares of 3.901 accounts for 8% of total variance. Its most characteristic scales are COMPETENT, SOPHISTICATED, SUCCESSFUL, and KNOWLEDGEABLE (with lesser loadings on OBJECTIVE, ADVANCING, and LEADING). These scales with their rotated loadings and communalities are shown in Table IX.

Factor III appears to be primarily a potency dimension (cf. scales: COMPETENT, SUCCESSFUL, SOPHISTICATED, and KNOWLEDGEABLE) with a secondary activity component (cf. scales: ADVANCING and LEADING). Its similarity to the second factor in the union subject group prompts the same name for it--the Professional factor. The coefficient of congruence calculated for this factor for the two subject groups yielded a value of 0.56, and the cosine between reference axes is .520 indicating once more that the quality of meaning measured is quite similar in both cases.

Graphic plots of scale loadings on Factor III are presented in figures 5 and 6.

In summary, the three prime factors in this subject group account for 30% of total variance in the meaning of the concept business executive. The first factor (Considerateness) accounts for 13% of total variance, the second factor (Dynamism), accounts for 9% of variance, and







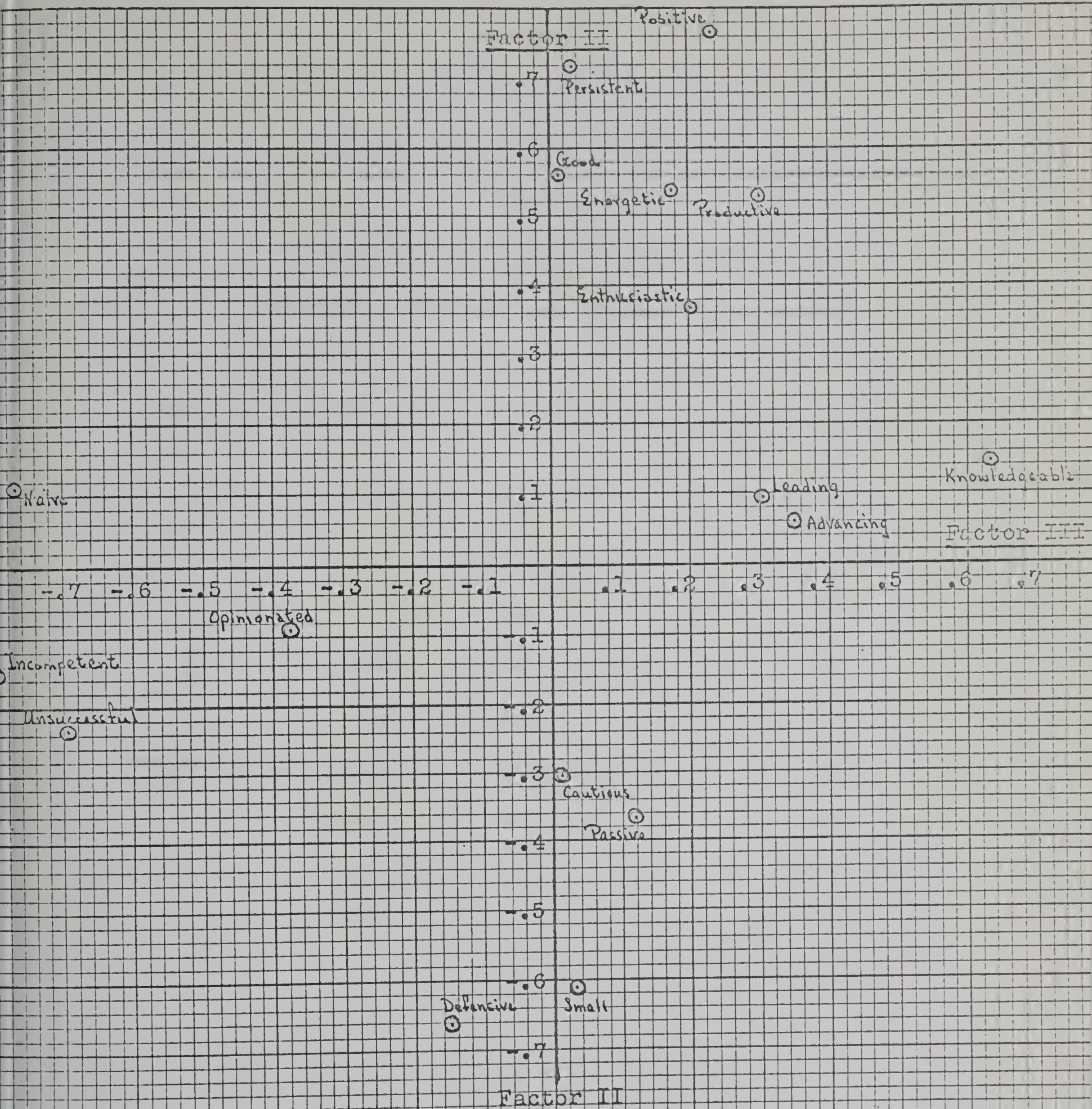


Figure 6 • Semantic Scales and their Relations to Factors II and III for Concept of Business Executive held by Business Group.







TABLE IX  
LOADINGS ON SCALES DEFINING FACTOR III  
(Concept: Business Executive; Subjects: Business Group)

Scale No.	Communality	Scale Name	Varimax Loading
8	0.812	Successful (P)	0.692
13	0.561	Advancing (A)	0.351
17	0.777	Competent (P)	0.794
20	0.685	Sophisticated (A)	0.767
23	0.503	Leading (A)	0.302
34	0.678	Knowledgeable (P)	0.632
39	0.670	Objective (E)	0.390







the third factor (Professional) accounts for 8% of the total variance.

The factorial structure of meaning as it refers to the image of the business executive is not identical for the two subject groups but it is similar to the point of being comparable.

Comparisons of the factors across the two subject groups show that the Dynamism and Professional factors are quite similar for the two groups yielding coefficients of congruence in each case which approximate 0.6 and obtaining cosines for reference axes approximating 0.5. The other factors in each group (Pertinacity and Considerateness) appear to bear some relation to the Dynamism factor but are nevertheless distinct dimensions.

Thus it appears that a common, or at any rate highly similar, semantic structure exists for, and is utilized by, the two subject groups in their ratings of the concept business executive.

#### Concept of Union Leader Held by Union Group

The five principal factors in this subject group account for 54% of total measured variance. The first three of these account for 39% of total variance and these three are examined below.

Factor I with a sum of squares of 7.531 accounts for 16% of variance. The scales which characterize this factor are FAIR, DEMOCRATIC,







COMPETENT, AGGRESSIVE, CONSIDERATE, FRIENDLY, RESPONSIBLE, ACCURATE, SUCCESSFUL, MODERN, ACTIVE, EFFICIENT, INTELLIGENT, and MODERATE. Lesser loadings on FLEXIBLE and COOPERATIVE are also characteristic. These scales, their rotated loadings, and their communalities are given in Table X.

As was found in the business subjects' ratings of business executive this first factor appears to be highly evaluative. The evaluative scales (FAIR, DEMOCRATIC, CONSIDERATE, RESPONSIBLE, and INTELLIGENT) exhibit the highest loadings and even the nominal activity scales (AGGRESSIVE, FRIENDLY, ACTIVE, and MODERATE) and the potency scales (COMPETENT, ACCURATE, SUCCESSFUL, MODERN, and EFFICIENT) appear to be used in an evaluative context--perhaps because of scale interaction with what seems surely to be an evaluative concept for the union group.

Because of its similarity to Factor I in the business subject group's ratings of the concept business executive the present factor has also been called the Considerateness factor. As in the case of the other Considerateness factor, the values obtained on significant scales exhibit consistently high correlations with the considerate semantic scale. It is also not an entirely "clear" dimension with a considerable dynamistic component but there is little question about its similarity to that other factor.







TABLE X  
LOADINGS ON SCALES DEFINING FACTOR I  
(Concept: Union Leader;      Subjects: Union Group)

Scale No.	Communality	Scale Name	Varimax Loading
5	0.771	Fair (E)	0.758
6	0.804	Modern (P)	0.612
8	0.846	Successful (P)	0.615
10	0.739	Moderate (A)	0.404
15	0.664	Flexible (P)	0.353
16	0.559	Aggressive (A)	0.707
17	0.852	Competent (P)	0.717
19	0.709	Cooperative (A)	0.334
22	0.787	Friendly (A)	0.683
25	0.860	Intelligent (E)	0.528
26	0.826	Responsible (E)	0.674
28	0.820	Democratic (E)	0.748
33	0.812	Considerate (E)	0.700
36	0.797	Active (A)	0.576
41	0.714	Accurate (P)	0.662
47	0.754	Efficient (P)	0.566







A coefficient of congruence calculated for the two factors yielded a value of 0.66, and a cosine of .539.

Graphic plots of Factor I scales appear in Figures 7 and 8.

Factor II with a sum of squares of 7.269 accounts for 15% of total variance. The scales with heaviest loadings on this factor are HONEST, PRODUCTIVE, ADVANCING, GOOD, STRONG, COURTEOUS, CONSTRUCTIVE, CONGENIAL, ETHICAL, and PREDICTABLE (with lesser loadings on ENTHUSIASTIC and LEADING). This factor appears to be predominantly an evaluative (HONEST, GOOD, CONGENIAL, ETHICAL, and PREDICTABLE) and activity (ADVANCING, POLITE, CONSTRUCTIVE, ENTHUSIASTIC, and LEADING) dimension with a small potency component (PRODUCTIVE and STRONG). However even the activity scales seem to be used in an evaluative sense. These scales with their rotated loadings and communalities are listed in Table XI.

Inspection of the scale composition of this factor indicates a similarity with the first factor in the union group-business executive set. A coefficient of congruence calculated for the two factors yielded a value of 0.81 and a cosine value of .808 was obtained. Thus the second factor is the Dynamism factor.

Graphic plots of Factor II scales appear in Figures 7 and 9.







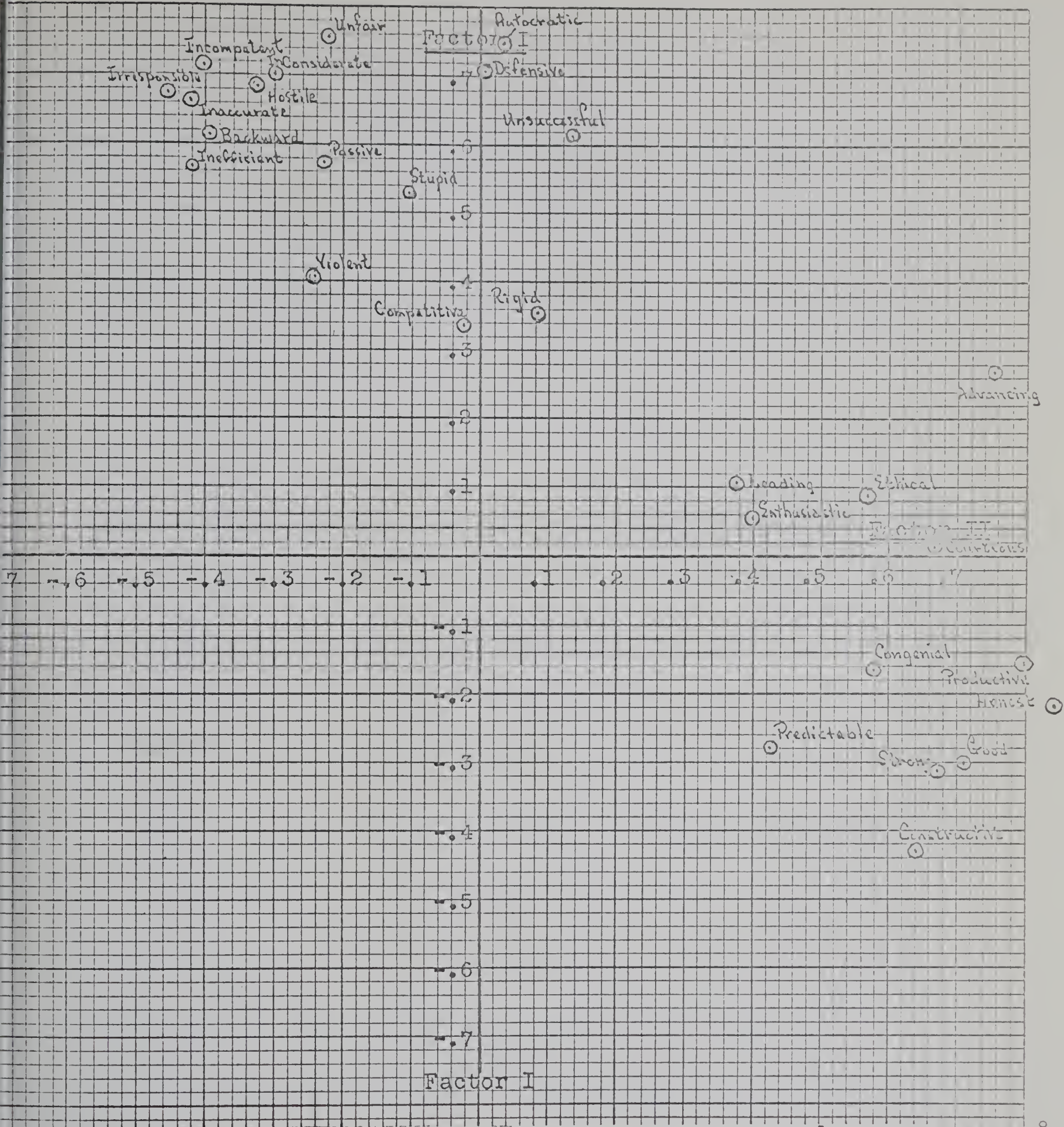


Figure 7 . Semantic Scales and their Relations to Factors I and II for Concept of Union Leader held by Union Group.







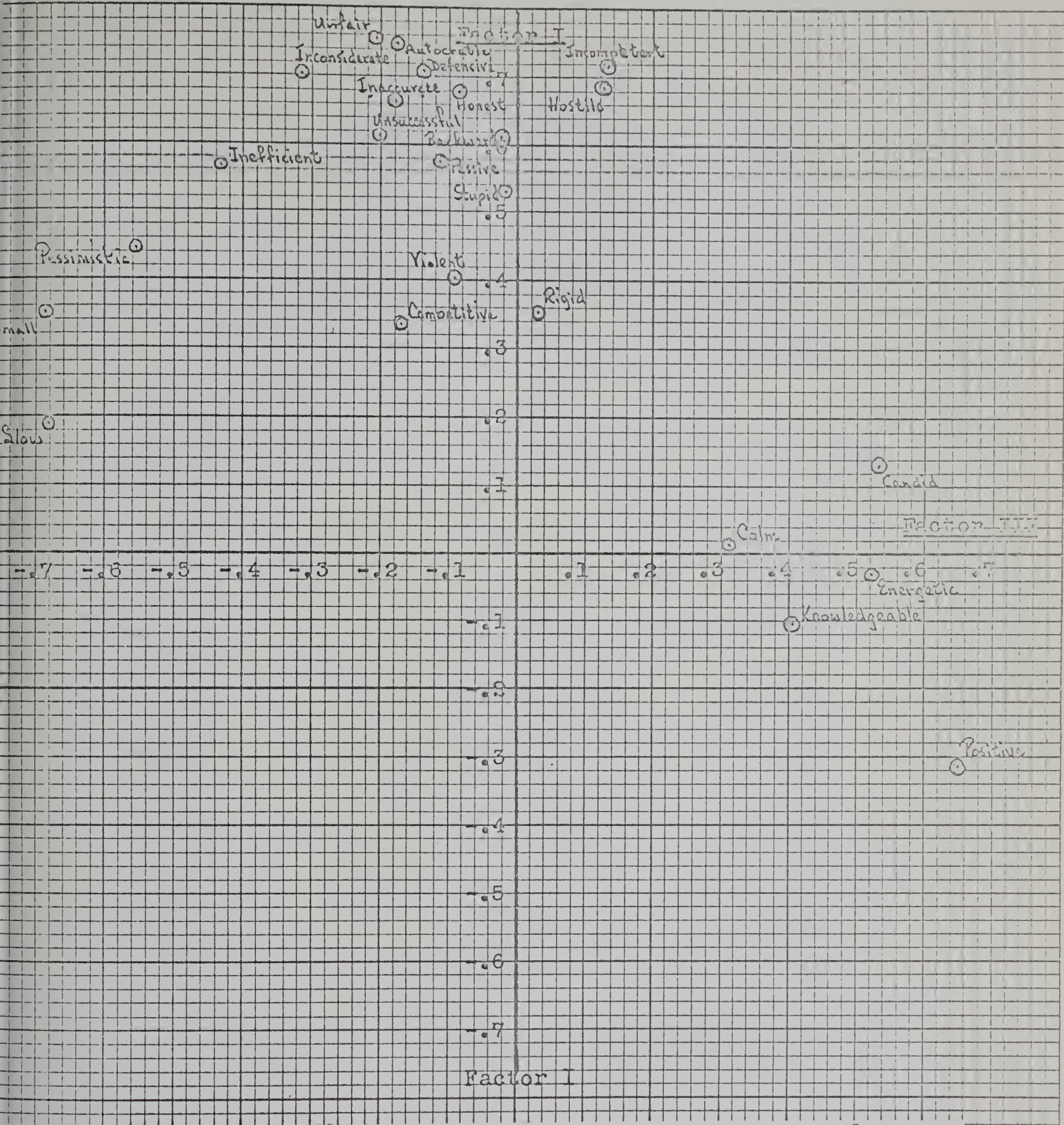


Figure 8. Semantic Scales and their Relations to Factors I and III for Concept of Union Leader held by Union Group.







TABLE XI  
LOADINGS ON SCALES DEFINING FACTOR II  
(Concept: Union Leader;      Subjects: Union Group)

Scale No.	Communality	Scale Name	Varimax Loading
1	0.709	Strong (P)	0.670
2	0.817	Courteous (A)	0.667
11	0.687	Ethical (E)	0.566
13	0.764	Advancing (A)	0.753
21	0.789	Productive (P)	0.799
23	0.819	Leading (A)	0.376
24	0.875	Honest (E)	0.842
27	0.760	Enthusiastic (A)	0.399
30	0.748	Constructive (A)	0.640
37	0.794	Good (E)	0.709
38	0.754	Predictable (E)	0.421
46	0.677	Congenial (E)	0.577







Figure 9. Semantic Scales and their Relations to Factors II and III for Concept of Union Leader held by Union Group.







Factor III with a sum of squares of 4.002 accounts for 8% of total variance. It is characterized by the following scales: LARGE, FAST, POSITIVE, OPTOMISTIC, CANDID, ENERGETIC, and KNOWLEDGEABLE (with a lesser loading on CALM). These scales with their factor loadings and communalities are listed in Table XII.

A coefficient of congruence of 0.57 and a cosine between reference axes of .359 was obtained in comparing this factor with the Professional factor extracted from ratings of business executive by union subjects so the third factor has been tentatively called the Professional factor.

Graphic plots of Factor III scales appear in Figures 8 and 9.

In summary, the concept of the union leader (for the union group) appears to be largely contained by the three prime factors called the Considerateness, the Dynamism, and the Professional factors. These three dimensions account for 39% of the total measured variance in meaning for this group of subjects.

It is revealing to note that this is the same factorial structure as was found for business subjects rating business executive which shows that both subject groups tend to utilize the same factors in the same order of importance in forming their images of their own leaders or executives.







TABLE XII  
LOADINGS ON SCALES DEFINING FACTOR III  
(Concept: Union Leader; Subjects: Union Group)

Scale No.	Communality	Scale Name	Varimax Loading
7	0.683	Candid (E)	0.534
9	0.754	Optomistic (E)	0.559
12	0.856	Large (P)	0.708
18	0.750	Calm (A)	0.313
34	0.725	Knowledgeable (P)	0.403
40	0.851	Energetic (A)	0.521
42	0.694	Positive (E)	0.653
44	0.789	Fast (A)	0.684







Concept of Union Leader Held by Business Group

The five principal factors in this subject group account for 49% of total measured variance. The first three of these account for 37% of the total and these three are examined below.

The first factor, with a sum of squares of 9.892 accounts for 21% of total variance. The scales which best characterize it are CONSIDERATE, RIGID, FRIENDLY, CAUTIOUS, COMPETITIVE, CONGENIAL, MODERATE, DEMOCRATIC, CALM, ETHICAL, ACCURATE, COURTEOUS, WARM, FAIR, RESPONSIBLE, HONEST, GOOD, INTELLIGENT, MODERN and COMPETENT. A less significant loading was evident on the EFFICIENT scale as well. The rotated loadings and communalities for these scales are exhibited in Table XIII.

Once again the first factor is a highly evaluative one as evidenced by substantial loadings on the scales: CONSIDERATE, CONGENIAL, DEMOCRATIC, ETHICAL, FAIR, RESPONSIBLE, HONEST, GOOD, and INTELLIGENT. Important scales which introduce the activity component are FRIENDLY, CAUTIOUS, MODERATE, CALM, COURTEOUS, and WARM; and important scales with a potency element are RIGID, COMPETITIVE, ACCURATE, MODERN, COMPETENT, and EFFICIENT.

The strongly evaluative quality of this factor suggests once more that some of the non-evaluative scales may have interacted with the







TABLE XIII

LOADINGS ON SCALES DEFINING FACTOR I

(Concept: Union Leader; Subjects: Business Group)

Scale No.	Communality	Scale Name	Varimax Loading
2	0.638	Courteous (A)	0.639
5	0.799	Fair (E)	0.597
6	0.715	Modern (P)	0.425
10	0.644	Moderate (A)	0.702
11	0.761	Ethical (E)	0.678
15	0.721	Flexible (P)	0.769
17	0.739	Competent (P)	0.401
18	0.669	Calm (A)	0.680
19	0.739	Cooperative (P)	0.740
22	0.720	Friendly (A)	0.767
24	0.873	Honest (E)	0.579
25	0.776	Intelligent (E)	0.445
26	0.758	Responsible (E)	0.597
28	0.827	Democratic (E)	0.687
29	0.853	Cautious (A)	0.748
33	0.778	Considerate (E)	0.851
35	0.772	Warm (A)	0.602
37	0.664	Good (E)	0.470
41	0.757	Accurate (P)	0.665
46	0.766	Congenial (E)	0.712
47	0.528	Efficient (P)	0.349

Loadings Reflected.







concept to produce evaluative judgments as explained earlier with other subject-concept groups.

Inspection of Factor I scales and comparison with those of other factors in previous subject-concept groups suggests that this is the Considerateness factor again.

The calculated coefficients of congruence with the Considerateness factors extracted previously are 0.67 and 0.84 and cosine values are .793 and .982.

Graphic plots of Factor I scales appear in Figures 10 and 11.

Factor II with a sum of squares of 4.836 accounts for 10% of total variance. Its most distinctive scales are ENERGETIC, SERIOUS, STRONG, DOMINEERING, PERSISTENT, FAST, and LEADING (with a lesser loading on ACTIVE). Table XIV lists these scales with their rotated loadings and communalities.

This factor appears to be the Pertinacity factor extracted in the union group of subjects and described earlier. A coefficient of congruence of 0.50 was obtained for these two factors but the cosine value was 0.800.

Graphic plots of scale loadings appear in Figures 10 and 12.

Factor III with a sum of squares of 3.211 accounts for 7% of total variance and is the smallest third factor in the four subject-concept groups. It is characterized by the following scales: ENTHUSIASTIC,







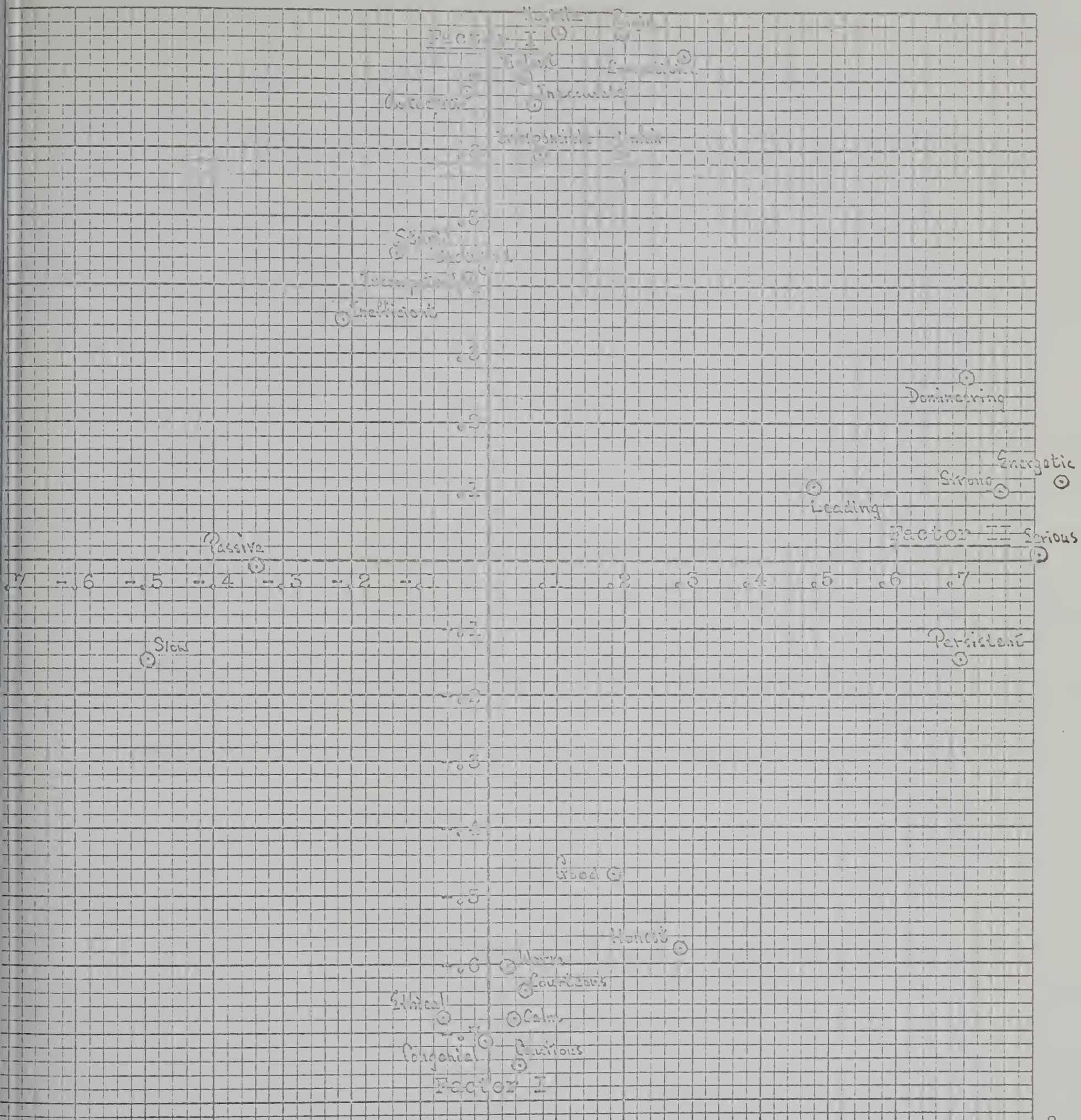


Figure 10 . Semantic Scales and their Relations to Factors I and II for Concept of Union Leader held by Business Group.







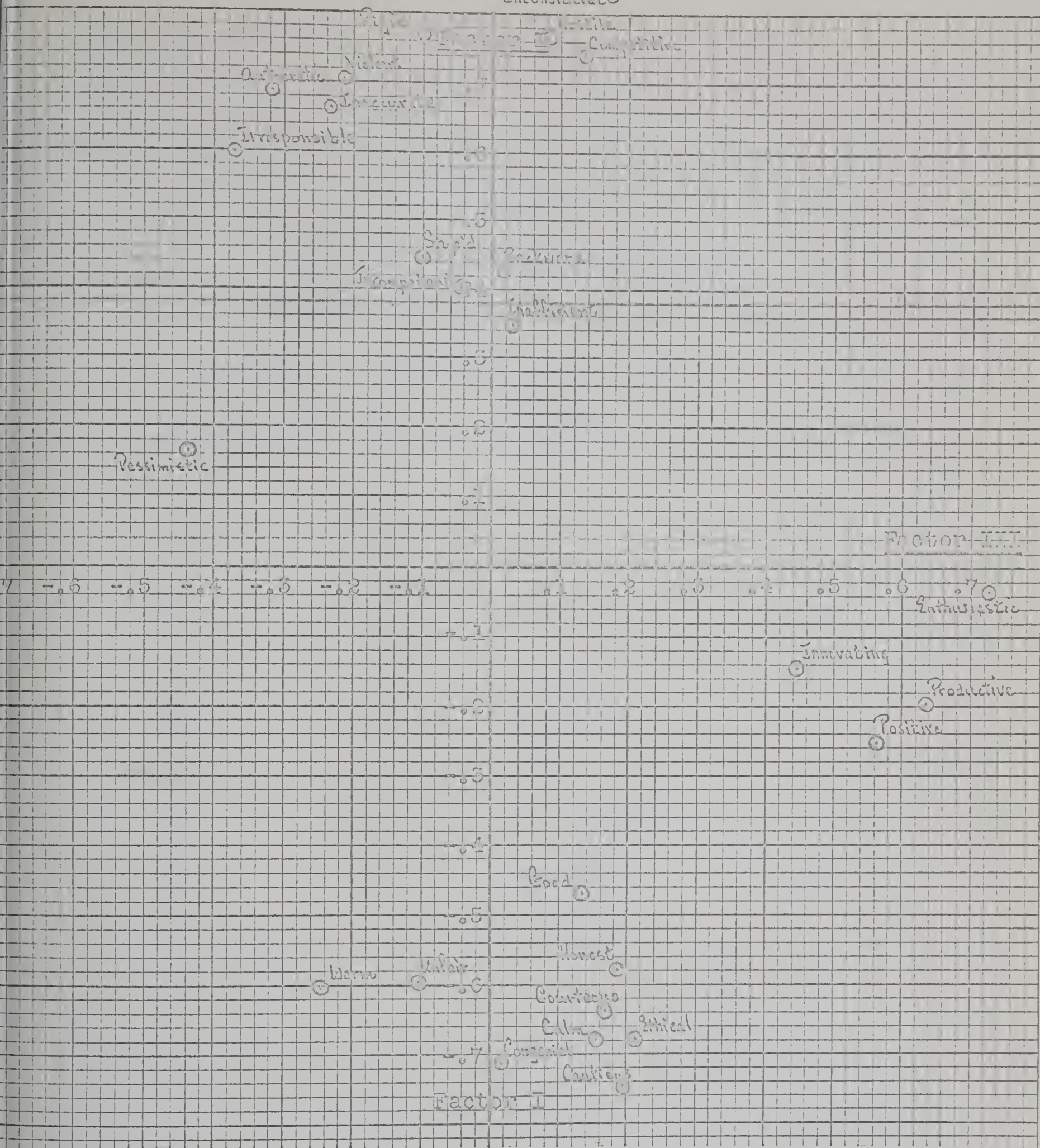


Figure 11. Semantic Scales and their Relations to Factors I and III for Concept of Union Leader held by Business Group.







TABLE XIV  
LOADINGS ON SCALES DEFINING FACTOR II  
(Concept: Union Leader; Subjects: Business Group)

Scale No.	Communality	Scale Name	Varimax Loading
1	0.749	Strong (P)	0.752
3	0.714	Serious (P)	0.809
23	0.671	Leading (A)	0.474
36	0.772	Active (A)	0.340
40	0.843	Energetic (A)	0.841
44	0.687	Fast (A)	0.499
45	0.713	Domineering (P)	0.700
48	0.703	Persistent (P)	0.694







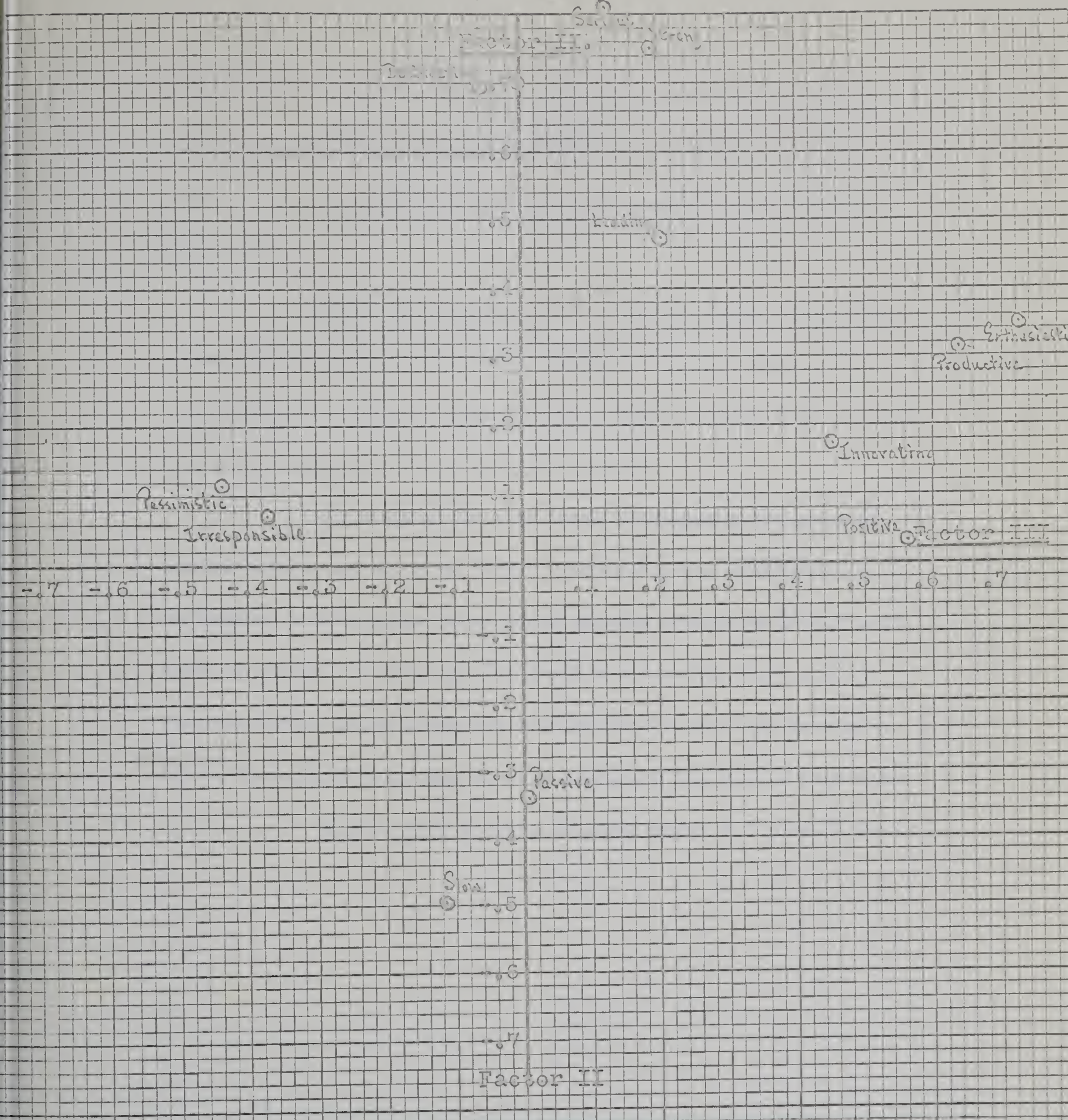


Figure 12. Semantic Scales and their Relations to Factors II and III for Concept of Union Leader held by Business Group.







PRODUCTIVE, POSITIVE, INNOVATING, and OPTOMISTIC; a smaller but substantial loading appears on the RESPONSIBLE scale too. These scales with their rotated factor loadings and communalities are listed in Table XV.

This factor appears to be the Dynamism factor and it obtains values of 0.67, 0.81, and 0.64 when coefficients of congruence were calculated for it and cosine values of .877, .808, and .484 when compared with the other Dynamism factors extracted earlier.

The image of the union leader developed by the group of business subjects appears to be largely contained by the Considerateness, Pertinacity, and Dynamism factors which together account for 38% of total measured variance in meaning. The structure is very like that found in the union subject group except that business subjects substitute Pertinacity for the Professional factor used by union subjects at this level of magnitude.

Graphic plots of Factor III scales appear in Figures 11 and 12.







TABLE XV  
LOADINGS ON SCALES DEFINING FACTOR III  
(Concept: Union Leader; Subjects: Business Group)

Scale No.	Communality	Scale Name	Varimax Loading
9	0.744	Optomistic (E)	0.439
21	0.717	Productive (P)	0.634
26	0.758	Responsible (E)	0.373
27	0.735	Enthusiastic (A)	0.724
42	0.690	Positive (E)	0.562
43	0.727	Innovating (A)	0.452







### III. QUANTITATIVE AND QUALITATIVE COMPARISON OF FACTORIAL STRUCTURE OF MEANING IN THE FOUR SUBJECT-CONCEPT GROUPS

The examination of relationships between selected scales and large factors which was presented above was concerned primarily with the relationships existing within each subject-concept group. What follows is an attempt to make some comparisons of the resulting semantic structures among the four groups.

It has been shown that one-half of the total measured variance is accounted for by the first five factors extracted; and that the first three of these account for an average of 36% of total variance. The first factor accounts for an average of 17% of variance, the second accounts for an average of 11%, and the third accounts for 8%. It is apparent that each succeeding factor accounts for about two-thirds of the total variance of the preceeding one.

The relative importance of each factor in each subject-concept group is indicated by the variance measures presented in Table XVI and also by the graphic illustration of Figure 13.







TABLE XVI

RELATIVE IMPORTANCE OF THE THREE MAJOR FACTORS  
IN EACH SUBJECT-CONCEPT GROUP

(Percent of Variance Accounted for by Each Factor  
Tabled According to Factor Size)

Subject-Concept Group	Factor 1	Factor 2	Factor 3	Total. %
<u>Business Executive</u>				
Union Group	17.9	11.2	8.9	38.0
Business Group	13.3	8.9	8.1	30.3
<u>Union Leader</u>				
Union Group	15.7	15.1	8.3	39.1
Business Group	20.6	10.1	6.7	37.4
Total	67.5	45.3	32.0	144.8
Average	16.9	11.3	8.0	36.2







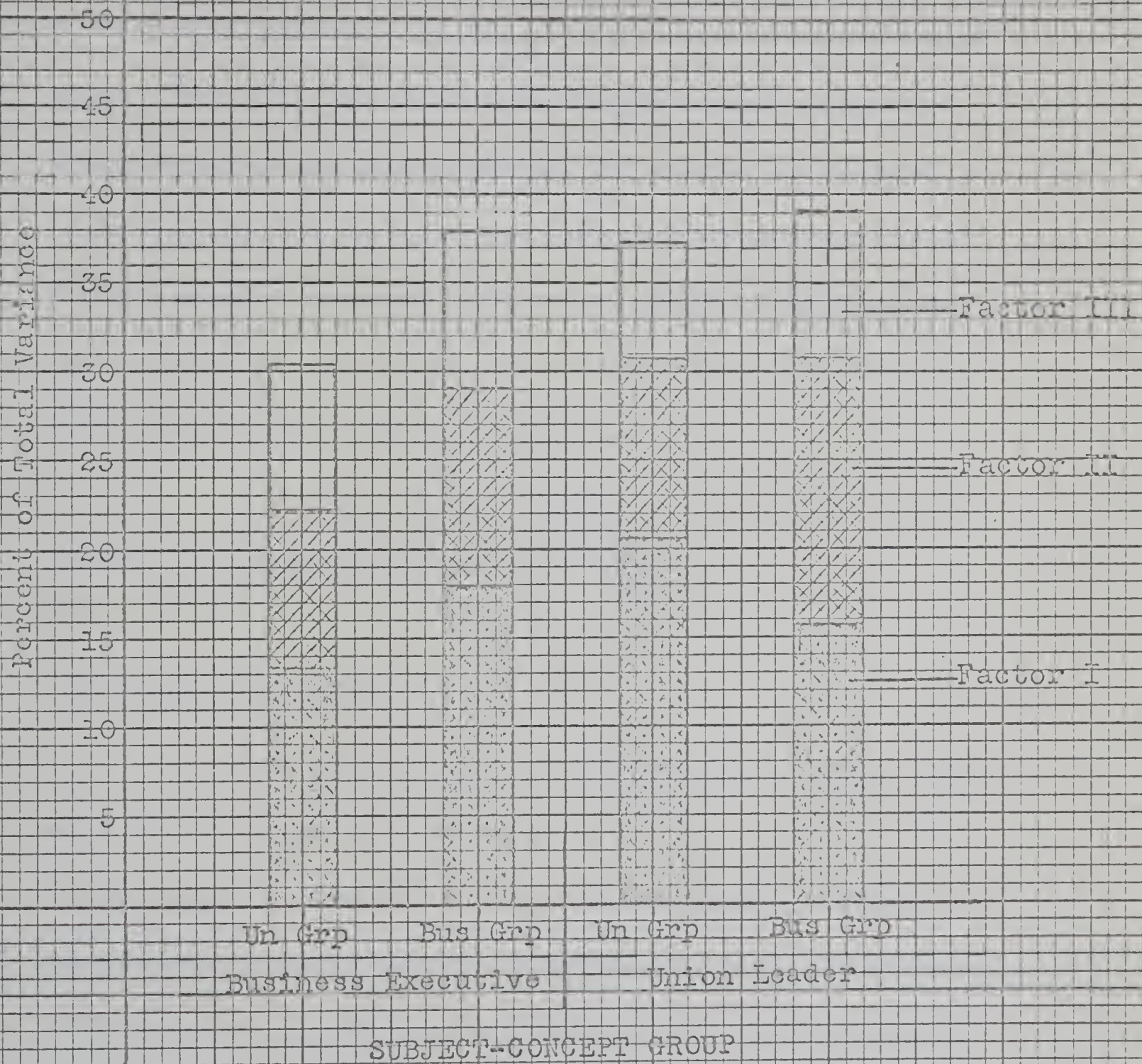


Figure 13. Relative Importance of the Three Major Factors in each Subject-Concept Group.







While Table XVI lists the factors in order of magnitude it disregards the qualitative composition of each factor, and so the same factors are relisted in Table XVII where they are classified by quality characteristic. The significance of this presentation lies in the demonstration of the changed rank order of the various factors across the subject-concept groups. Table XVII, also illustrates the changes in relative magnitude of each factor from one group to another. For example, the Dynamism Factor is paramount in the union group's ratings of business executive but it is only second in importance in the business group's ratings of business executive or in the union group's ratings of union leader, and it is third in the ratings of union leader by business subjects.

A discussion of the similarities and differences of factorial composition among the four subject-groups follows.

#### The Considerateness Factor

The Considerateness factor has been defined as that dimension which gives a measure of the meaning or the image of business executive and union leader in terms of such qualities as consideration, circumspection, thoughtfulness, sympathy, maturity, attentiveness to others, and amiability. In this respect it suggests a human relations dimension. It also appears to have a high predominance of evaluative characteristics.







TABLE XVII  
RELATIVE SIZE OF THE MAJOR DIMENSIONS

(Percent of Variance Accounted for by Each Factor

Tabled According to Factor Quality)

Subject-Concept Group	Factor				Total %
	Consid.	Dynam.	Pertin.	Profes.	
<u>Business Executive</u>					
Union Group	---	17.9	8.9	11.2	38.0
Business Group	13.3	8.9	---	8.1	30.3
<u>Union Leader</u>					
Union Group	15.7	15.1	---	8.3	39.1
Business Group	20.6	6.7	10.1	---	37.4
<hr/>					
Total	49.6	48.6	19.0	27.6	
Average	16.5	12.1	9.5	9.2	







The Considerateness factor does not appear among the top three factors in all four subject-concept groups. However, in the three groups where it is evident it is easily the most important factor of all. In these three groups the factor accounts for from 13.3% to 20.6% of total measured variance or an average of 16.5% per group. The scales characterizing this factor have already been detailed above but a comparison of the relative importance of each scale for the factor across subject-concept groups is presented in Table XVIII.

Although the Considerateness factor is clearly not a pure factor (it obtains moderately high correlations with the Dynamism factor in some instances) it is clearly the same dimension in all three subject-concept groups. Coefficients of congruence and cosines between reference axes for it are given in Table XIX and illustrate the considerable degree of identity which exists among the Considerateness factors extracted in the various groups' ratings. Among business subjects this degree of identity is very high as indicated by a coefficient of 0.84 and a cosine of 0.982.

#### The Dynamism Factor

The Dynamism dimension isolated in this study is distinguished by semantic scales which give the factor the character of energy, force, vitality, and action and which characteristics prompted the label of Dynamism.







TABLE XVIII

COMPARISON OF SCALES

DEFINING THE CONSIDERATENESS FACTOR IN THREE GROUPS

Scale No.	Scale	Varimax Factor Loading			
		Business Executive		Union Leader	
		Un. Grp.	Bus. Grp.	Un. Grp.	Bus. Grp.
2	Courteous		.641		.639
5	Fair		.625	.758	.597
6	Modern		.297	.612	.425
8	Successful			.615	
10	Moderate		.623	.404	.702
11	Ethical		.543		.678
15	Flexible		.575	.353	.769
16	Aggressive			.707	
17	Competent			.717	.401
18	Calm				.680
19	Cooperative			.334	.740
22	Friendly		.605	.683	.767
24	Honest		.664		.579
25	Intelligent			.528	.445
26	Responsible		.492	.674	.597
28	Democratic		.680	.748	.687
29	Cautious				.748
30	Constructive		.547		
31	Soft		.417		
33	Considerate		.813	.700	.851
35	Cool		.522		.602
36	Active			.576	
37	Good				.470
41	Accurate			.662	.665
46	Congenial		.532		.712
47	Efficient			.566	.349







TABLE XIX

COEFFICIENTS OF CONGRUENCE AND  
COSINES BETWEEN REFERENCE AXES (SHOWN IN PARENTHESIS)  
FOR THE CONSIDERATENESS FACTOR

Subject-Concept Group	<u>Business Executive</u>		<u>Union Leader</u>	
	Union Group	Business Group	Union Group	Business Group
<u>Business Executive</u>				
Union Group	---			
Business Group	---	1.00		
<u>Union Leader</u>				
Union Group	---	0.66 (.539)	1.00	
Business Group	---	0.84 (.982)	0.67 (.793)	1.00







This dimension is the only one common to all four subject-concept groups. It is identified as the largest factor in the UG-BE (union group-business executive) subject-concept group. It is the second largest factor in the BG-BE and UG-UL (business group-business executive and union group-union leader) groups, and is the third factor in the BG-UL (business group-union leader) group.

The Dynamism factor accounts for from 8.9% to 17.9% of total measured variance in meaning in the four subject-concept groups, or an average of 12.1% of variance. A comparison of the scales defining this factor (across groups) and their respective varimax loadings is presented in Table XX.

From Table XX it is apparent that the scale composition and scale loadings show distinct differences for the Dynamism factor across the four subject-concept groups. It would appear that there are several Dynamism factors rather than one. It seems likely that qualitatively this dimension undergoes some change from one group to another. However, coefficients of congruence calculated for the factor across all four groups yielded substantial values thus supporting the view that this is actually one dimension. In addition the results of Kaiser factor matches obtained by calculating the cosine between reference axes also support in large measure and amplify the data from the coefficients. Both coefficients and







TABLE XX  
COMPARISON OF SCALES DEFINING THE  
DYNAMISM FACTOR IN THE FOUR GROUPS

Scale No.	Scale	Varimax Factor Loading			
		Business Executive		Union Leader	
		Un. Grp.	Bus. Grp.	Un. Grp.	Bus. Grp.
1	Strong	.611		.670	
2	Courteous	.369		.667	
9	Optomistic				.439
11	Ethical	.394		.566	
12	Large		.605		
13	Advancing	.556		.753	
16	Aggressive		.661		
21	Productive		.523	.799	.634
23	Leading	.610		.376	
24	Honest	.391		.842	
25	Intelligent	.480			
27	Enthusiastic	.865	.365	.399	.724
30	Constructive	.798		.640	
34	Knowledgeable	.715			
35	Warm	.543			
36	Active		.388		
37	Good	.743	.560	.709	
38	Predictable	.406		.421	
40	Energetic	.714	.536		
41	Accurate	.420			
42	Positive	.682	.764		.562
43	Innovating	.766			.452
44	Fast	.647			
46	Congenial			.577	
48	Persistent		.717		







cosines are presented in Table XXI and demonstrate the substantial degree to which these factors appear to measure the same quality of meaning. The most striking observation to be made is the complexity of the scale composition of this factor among union subjects as contrasted with the comparative simplicity among business subjects. Union subjects utilize fully twice as many semantic scales to delineate the factor as do business subjects. In fact the structure of this dimension in the union group almost suggests the formation of a characteristic attribute operating within a dynamistic frame of reference.

#### The Pertinacity Factor

This dimension appears to relate to the qualities of being resolute, persistent, tenacious, unyielding, and obstinate. It appears in only two subject-concept groups but is a comparatively important dimension in each, accounting for 8.9% and 10.1% of total variance in meaning or an average of 9.5%. It is noticeable particularly in that it appears most prominently in each subject group's ratings of the leaders or executives of their opposite numbers.

A comparison of the scales and their loadings on this factor, across groups, is presented in Table XXII.

A coefficient of congruence calculated for the factor across the two groups in which it was isolated yielded a value of only 0.50 but







TABLE XXI  
COEFFICIENTS OF CONGRUENCE AND  
COSINES BETWEEN REFERENCE AXES (SHOWN IN PARENTHESES)  
FOR THE DYNAMISM FACTOR

Subject-Concept Group	<u>Business Executive</u>		<u>Union Leader</u>	
	Union Group	Business Group	Union Group	Business Group
<u>Business Executive</u>				
Union Group	1.00			
Business Group	0.64 (.484)	1.00		
<u>Union Leader</u>				
Union Group	0.81 (.808)	0.49 (.732)	1.00	
Business Group	0.67 (.877)	0.44 (.786)	0.58 (.417)	1.00







TABLE XXII

COMPARISON OF SCALES

DEFINING THE PERTINACITY FACTOR IN TWO GROUPS

Scale No.	Scale	Varimax Factor Loading			
		Business Executive		Union Leader	
		Un. Grp.	Bus. Grp.	Un. Grp.	Bus. Grp.
1	Strong				.752
3	Serious				.809
15	Rigid	.722			
19	Competitive	.357			
23	Leading				.474
28	Autocratic	.573			
31	Hard	.835			
33	Inconsiderate	.417			
36	Active				.340
39	Opinionated	.312			
40	Energetic				.841
44	Fast				.499
45	Domineering	.831			.700
48	Persistent	.795			.694







when the cosine between reference axes was determined it yielded a value of 0.800 which value is more in line with the intuited identity of the two.

### The Professional Factor

The Professional Factor has been defined in terms of such qualities as proficiency, expertness, mastery over the individual's work environment, ethics, and qualities of character. It accounts for from 8.1% to 11.2% of total measured variance in meaning or an average of 9.2%.

This factor is one of the top three factors in three of the subject-concept groups studied. Although it exhibits considerable variability in scale composition and scale loadings from group to group, it obtains moderate values in factor matches and appears to be a measure of substantially the same quality of meaning in each group.

A comparison of the relative importance of each semantic scale for this factor across groups is presented in Table XXIII.

Coefficients of congruence and cosines between reference axes have been calculated for this factor and are presented in Table XXIV. They have all yielded modest values and give indication of the similarity of the three Professional factors extracted in the study.







TABLE XXIII

COMPARISON OF SCALES

DEFINING THE PROFESSIONAL FACTOR IN THREE GROUPS

Scale No.	Scale	Varimax Factor Loading			
		Business Executive		Union Leader	
		Un. Grp.	Bus. Grp.	Un. Grp.	Bus. Grp.
4	Important	.361			
7	Candid			.534	
8	Successful		.692		
9	Optomistic			.559	
12	Large	.588		.708	
13	Advancing		.351		
14	Complex	.705			
16	Aggressive	.529			
17	Competent	.661	.794		
18	Calm	.508		.313	
20	Sophisticated		.767		
23	Leading	.455	.302		
29	Cautious	.299		.195	
32	Professional	.720			
34	Knowledgeable		.632	.403	
36	Active	.648			
39	Objective	.312	.390		
40	Energetic			.521	
42	Positive			.653	
44	Fast			.684	
46	Congenial	.321			
47	Efficient	.718			







TABLE XXIV  
COEFFICIENTS OF CONGRUENCE AND  
COSINES BETWEEN REFERENCE AXES (SHOWN IN PARENTHESES)  
FOR THE PROFESSIONAL FACTOR

Subject-Concept Group	<u>Business Executive</u>		<u>Union Leader</u>	
	Union Group	Business Group	Union Group	Business Group
<u>Business Executive</u>				
Union Group	1.00			
Business Group	0.56 (.520)	1.00		
<u>Union Leader</u>				
Union Group	0.57 (.359)	0.42 (.158)	1.00	
Business Group	---	---	---	---







### Other Factors

Factor Four in the business group's ratings of business executive appears to be the Pertinacity factor. It accounts for only 6% of total variance but obtains a cosine of 0.765 with the Pertinacity factor in the UG-BE group.

Factor Five in the Union Group's ratings of business executive appears to be another Professional factor accounting for 7% of variance and obtaining a cosine of 0.605 with the Professional factor in the BG-BE group.

Factor Four in the union group's ratings of union leader also appears to be a Pertinacity factor. It accounts for 8% of total variance in meaning and obtains a cosine value of 0.864 with the Pertinacity factor in the BG-UL group.

These additional factors increase the researcher's confidence in the belief that a common semantic structure is in fact utilized by the major subject groups in the development of their images of their own and each other's leaders and executives.

### Conclusions

A considerable dimensional stability and considerable consistency in factorial structure of the meanings of the concepts Business







Executive and Union Leader has been identified across the four subject-concept groups studied. However, distinct differences have been found in the content of the major factors from one group to another. This indicates that although the dimensions of meaning exhibit some quantitative and qualitative differences across subject and concept groups the semantic structures within which they develop are in fact very similar.

Although a psychodynamic or behavioral interpretation of the findings are beyond the scope of the present study an observation or two in this area may nevertheless be in order. Both subject groups tended to view the business executive and the union leader as oriented toward people. This is indicated primarily by the appearance and importance of the Considerateness factor but also to some extent by the Professional factor, too. Also important is the apparent tendency to form images of leaders and executives in terms of action, strength, efficacy, and pragmatic qualities. This observation is borne out to a large extent by the importance of the Dynamism and Pertinacity factors.

Both observations are naturally predictable in terms of the roles and conditions of the environments of these persons and also in terms of the kinds of interaction between the two. The study, however, makes these same facts explicit in experimental terms.







#### IV. SUMMARY

Four distinct major factors have been isolated and identified as operative in judgments of the meanings of the concepts Business Executive and Union Leader by groups of business and union subjects.

In each subject-concept grouping the first three (major) factors together account for approximately 30% to 39% of total measured variance in meaning (and approximately twice this amount of the total common variance).

The order of magnitude is not uniform for all subject-concept groups but it may be generalized somewhat as follows. The Considerateness factor tends to be the most important one, followed by the Dynamism factor, and then by the Pertinacity and/or Professional factor(s). Table XXV summarizes these relations for the four subject-concept groups and Figure 14 depicts the same information in graphic form.

Since the total amount of variance accounted for by the three major factors tends to be comparatively more in the union subject group than in the business group this shows that business subjects make relatively more use of other smaller dimensions in making judgments (or forming images) of union leader and business executive. Conversely the union







TABLE XXV

RELATIVE IMPORTANCE OF THE FOUR MAJOR DIMENSIONS

(Tabled According to Subject-Concept Group)

Rank	Business Executive		Union Leader	
	Union Group	Business Group	Union Group	Business Group
1st	Dynamism	Considerate	Considerate	Considerate
2nd	Professional	Dynamism	Dynamism	Pertinacity
3rd	Pertinacity	Professional	Professional	Dynamism







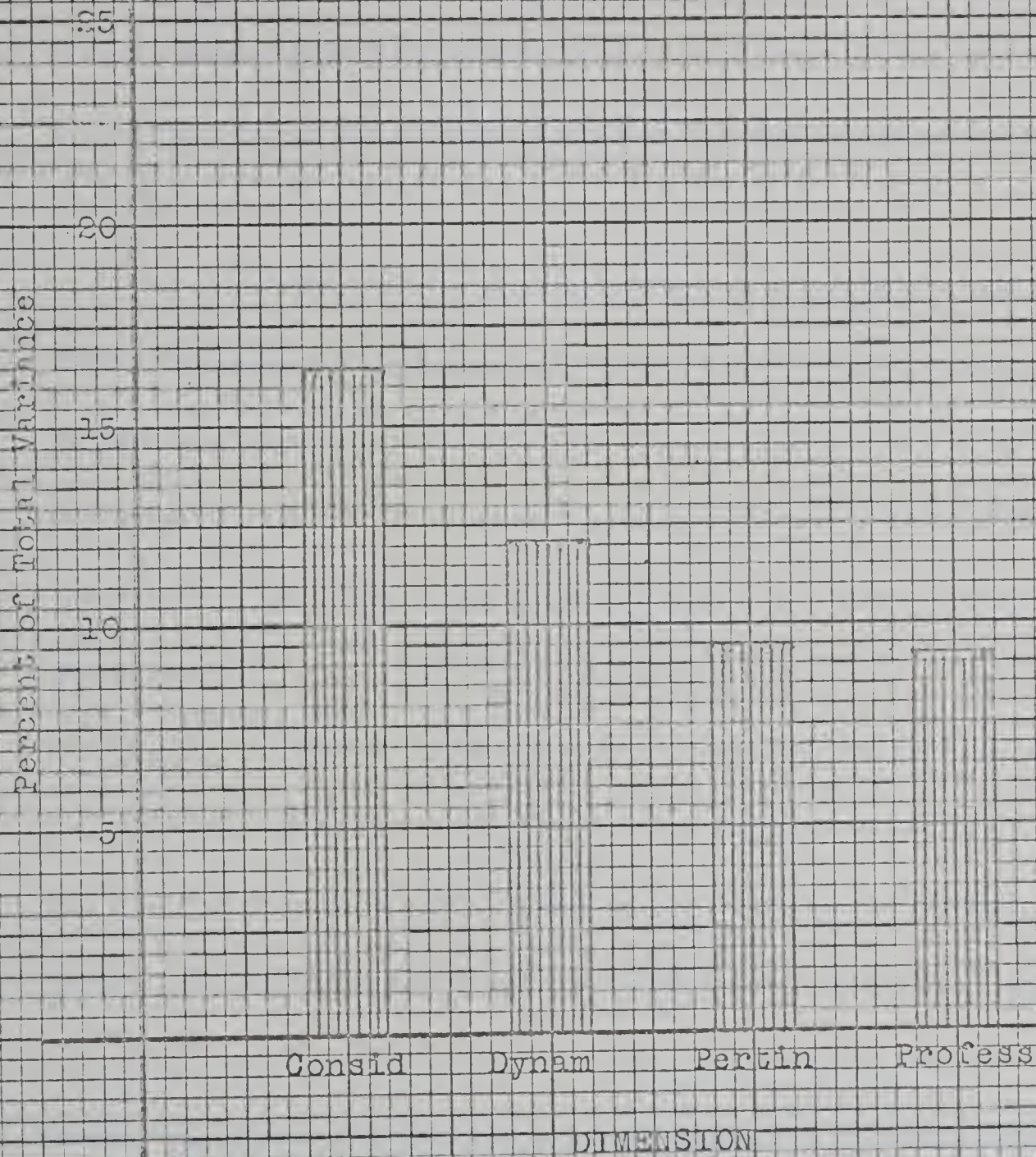


Figure 14. Relative Sizes of the Four Major Dimensions







subjects express the meaning of leaders and executives in terms of fewer principal factors and to this extent exhibit a simpler semantic structuring of these concepts. An explanation for this apparent tendency to use simpler structure may lie in differences in verbal ability between the two subject groups. In any event, no estimate of the significance of the differences is available and so the differences must be regarded as indicative rather than substantive.

None of the major factors can be purely identified with Osgood's three major dimensions of meaning and this would indicate that Osgood's labels have not proven to be entirely appropriate in judgments of the concepts union leader and business executive as expressed in this study. Apparently different labels are to be preferred when these concepts are investigated.

Osgood's evaluative component is detectable in several of the factors extracted in the study but a more substantial activity-potency quality appears to be revealed in the semantic composition of important factors. The evidence and importance of this activity-potency component prompts the conclusion that there is a dominant characteristic attribute functioning within a Dynamistic frame of reference in these judgments of the concepts.







If such a frame of reference exists then it is possible that the meanings of many scales may have shifted toward parallelism with the dominant characteristic attribute of the concepts business executive and union leader. As suggested above this would not be surprising in view of the nature of the roles and environmental conditions of leaders and executives and of the interactions between the two.

Furthermore it appears that this generalized Dynamistic quality or characteristic may have been broken down into more specific characteristics which have been detected and described as components of major factors--c.f. the Dynamism component in the Considerateness factor.

The existence of a number of other modest-sized factors could be investigated and this investigation might be facilitated if a different set of semantic scales were used. The selection of scales in the present study may have been such that these scales are easily aligned with the Dynamism dimension. Another study could well investigate this particular problem and attempt to discover scales which could provide more discriminatory or discrete measures of the various factors.

It is, of course, possible that there may have been a pre-conditioned set on the part of subjects to respond in dynamistic terms but it is difficult to see the validity in such a view.

It appears that each subject group structures the image of its own leaders or executives in much the same way as its counterpart does.







Each sees its leaders as Considerate, Dynamic, and Professional. But their structuring of the image of the opposite group's leaders or executives differs in that those leaders are seen as having certain distinctly pertinacious qualities.

The obvious similarities in the factorial structures employed by the two subject groups in defining their meanings of the concepts 'business executive' and 'union leader' belie certain measurable differences in qualitative and quantitative features. Yet even though measurable differences are evident, there is no evidence of dogmatic bias on the part of either group in their ratings of either concept.







## CHAPTER IV

### CONCLUSIONS

1) Distinctive factors or dimensions of the meaning (or image) of business executive and union leader can be isolated, identified, and their importance measured. Since dimensions of the semantic space appeared which were consistent with Osgood's theoretical position and which in addition were psychologically meaningful the use of the semantic differential and factor analytic techniques appeared to be justified.

2) The meanings of the concepts union leader and business executive may be largely expressed in terms of a small number of semantic dimensions or factors which appear to be predominantly dynamistic in character.

3) There are quantitative and qualitative differences in the semantic (factorial) structures indicated by the responses of the two subject groups. The union subjects exhibited a parsimonious semantic structuring by the comparatively greater reliance on a few major factors, whereas the business subjects, while placing much reliance on factors having the same qualities as those used by the union group, depend comparatively more on







other dimensions in judgments of leaders and executives.

4) None of the factors isolated corresponded exactly with Osgood's three major dimensions although, by definition, they all exhibited evaluative, potency, and activity characteristics. It appears that Osgood's terms are not appropriate (when defined as independent dimensions) to investigation of the concepts of union leader and business executive.

5) The dynamistic component is so highly pervasive that much of the variance in meaning is expressed along what appears to be a predominantly dynamistic characteristic attribute.

Since this characteristic attribute is dominantly dynamistic the concepts of leaders and executives may be inferred to be predominantly based on perceptions of potency and activity characteristics.

Although the subjects use other dimensions of meanings to complete their images of leaders and executives even these appear to be highly infused by the dynamistic predisposition toward leaders and executives.

6) The results suggest that the most effective and satisfying relations between executives and union leaders will depend on perceptions of the energy, force, vitality, pragmatic qualities, and efficacy of their respective decisions and actions. It would appear that in matters of either policy making or decision making considerations of pragmatism, efficacy, and strength are important to real understanding and appreciation of each other's actions.







## RECOMMENDATIONS FOR FURTHER STUDY

Future research might be directed toward the selection of "purer" semantic scales. More precise identification of the factorial content of such scales needs to be made in relation to the concepts business executive and union leader if the reliability of ratings is to be improved.

Further studies could investigate the apparently important area of the dynamistic dominant characteristic attribute related to the two concepts. The existence of this characteristic attribute may indicate that other factors, than those defined by the selection of scales in this study, may have more discriminatory capacity if they were used. On the other hand it is possible that these concepts do not lend themselves readily to factorial analysis because they may mean many different things to different people.

Another analytical rotation of the factors, and generally more sophisticated scaling methods might yield more significant results in another study. (Although quartimax and equimax rotations were also obtained in the present study an analysis of the data thus obtained was beyond the scope of this work.)







Other studies might well concern themselves with a longitudinal approach to measurement of the image of business executives and union leaders, and include subjects from a broader variety of basic types of industries and sizes of corporate and union units. Further analysis might be made of the effects of socioeconomic status, geographical distribution, educational status, vocational background, and/or political persuasion, on the image which is held of leaders and executives.

In conclusion, some research could be directed toward the practical application of findings from studies such as these. Data could be provided which could be useful in appraising union-management relations and this could be suggestive of the direction in which efforts could be exerted in order to bring about more satisfying relations between the two, and improved public images of both. The results and findings of the present study would appear to provide much useful material for a behavioral or psychodynamic review and/or study of union-management interaction.

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Edmonton, Alberta  
August 1966.







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## APPENDICES







## APPENDIX A

### Semantic Differential Questionnaire







# A STUDY OF THE BUSINESS EXECUTIVE AND THE UNION LEADER

The purpose of this questionnaire is to determine the way in which Business Executives and Union Leaders are perceived by themselves and each other.

You are asked to judge each class of person against a series of descriptive scales.

The questionnaire has four pages, on each of which is a series of descriptive scales. On two pages you are asked to rate the Business Executive on each of the scales, and two other pages you are asked to rate the Union Leader.

Please use each rating scale in the order which it appears.

Here is how you are to use the scales:

If you feel the class of person named at the top of the page is very closely related to one end of the scale, you should place your check-mark as follows:

good   X   :        :        :        :        :        :        bad  
OR

good        :        :        :        :        :        :   X   bad

If you feel the person is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:

large        :   X   :        :        :        :        :        small  
OR

large        :        :        :        :        :   X   :        small

If the person seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:

clean        :        :   X   :        :        :        :        dirty  
OR

clean        :        :        :        :   X   :        :        dirty

If you consider the person to be neutral on the scale (both sides of the scale equally associated with the person), or if the scale is completely irrelevant (unrelated to the concept), then you should place your check-mark in the middle.

hot        :        :        :   X   :        :        :        cold

## IMPORTANT:

1. Place your check-marks in the middle of spaces, not on the boundaries.

       :   X   :        :        :        :        :         
THIS NOT THIS

2. Be sure you check every scale for each class of person-DO NOT OMIT ANY.
3. Never put more than one check-mark on a single scale.

Sometimes you will feel as though you've had the same item before on the questionnaire. This will not be the case, so do not look back and forth through the items. Do not try to remember how you checked similar items earlier in the questionnaire. MAKE EACH ITEM A SEPARATE AND INDEPENDENT JUDGEMENT. Work at fairly high speed through this questionnaire. Do not worry or puzzle over individual items. It is your first impressions, the immediate 'feelings' about the items that we want. On the other hand, please do not be careless, because we want your true impressions.







DESCRIPTIVE SCALES

BUSINESS  
EXECUTIVE

strong	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	weak
courteous	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	impolite
serious	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	humorous
important	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	trivial
unfair	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	fair
backward	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	modern
candid	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	deceitful
unsuccessful	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	successful
pessimistic	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	optimistic
violent	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	Moderate
ethical	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	unethical
small	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	large
advancing	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	declining
simple	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	complex
rigid	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	flexible
defensive	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	aggressive
incompetent	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	competent
calm	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	excitable
competitive	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	cooperative
naive	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	sophisticated
productive	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	unproductive
hostile	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	friendly
leading	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	following
honest	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	dishonest
stupid	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	intelligent
irresponsible	_____	:	_____	:	_____	:	_____	:	_____	:	_____	:	_____	responsible

UNION  
LEADER







[illegible]







# DESCRIPTIVE SCALES

BUSINESS  
EXECUTIVE

strong \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

courteous \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

serious \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

important \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

unfair \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

backward \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

candid \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

unsuccessful \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

pessimistic \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

violent \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

ethical \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

small \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

advancing \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

simple \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

rigid \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

defensive \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

incompetent \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

calm \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

competitive \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

naive \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

productive \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

hostile \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

leading \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

honest \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

stupid \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

irresponsible \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_: \_\_\_\_\_

weak

impolite

humorous

trivial

fair

modern

deceitful

successful

optimistic

Moderate

unethical

large

declining

complex

flexible

aggressive

competent

excitable

cooperative

sophisticated

unproductive

friendly

following

dishonest

intelligent

responsible

UNION  
LEADER







[illegible]







## APPENDIX B

Raw Scores

Mean Scores and Standard Deviations

Eigenvalues

Unrotated Factor Matrix















Personal	Raw Scores	Score
164322223	2433543033310220430312072331243697738236602821	2104
112322122	332353355434363323343433552233453346423242543552	2105
163323223	12145447733431917417441211174417417471141171741	2106
1643331142	254333556253253664234224333155265546432344432552	2107
123221222	332255354334353565354522656254263366322253362452	2108
1423322423	35335336623326265225324533265663336462246262642	2109
7313321142	222271457244341156343312553663143451363242251231	2110
1123241632	213277267614225671652621672722556267227272262262	2111
1222332223	323376256625351661753732662612356226256362354261	2112
1232221122	221156575626563565262322762253175127332253261361	2113
1221242432	232155566554452662252223552352275357256252762361	2114
1133241142	121136566326572666432622662234264226212262261671	2115
1113321143	121121333333131131111132331313133133313131333131	2116
1633232242	121126567664163762152512661165263256421252263351	2117
1633221242	242156463364352664345213652154252145231132251662	2118
1123311323	22235535534535354533533455334325335355335353535	2119
1133321142	233246356535263663262423662233253246332252232352	2120
1243241632	132636662375331765226523626157163136321126652351	2121
9122232222	234263466354352664364324552253264246445342443463	2122
1223332322	736356356535353555555555555535535535535535535535	2123
1233222522	353433343334342656336343553355334335325433533553	2124
9443212412	232253353654355535553555355535553555355535553555	2125
6431112323	233353466456462766343513441453165247261166262652	2126
9632111123	142544662324543775262412731724233453445346641542	2127
6423242142	141143233256142645244322444244214367452144461541	2128
3123231132	111177777717177771771711771711377116173171161171	2129
9622212123	223166277624256653562622661633356236235263353261	2130
8412231221	262533454354442646244344543455352355444343452542	2131
3623231132	331245363435363755254323651453254246433245462551	2132
2623212123	16111267627227262612221722217717117771117471771	2133
4532222242	24334545335637465524531463225263526562235252651	2134
3133341142	233345465456555665255334543353254356453343352552	2135
1423232122	232246373334163766262614662232375646223242342361	2136
3233241232	154556356256533736353624531354364356552326253646	2137
5623351233	322356363534353535555642663513426355322353334252	2138
9623231121	244236466444265664262423552454364246234352364352	2139
7432212223	221155166434243763353512661343365247434152463352	2140
3633321223	333144454344233555544564453243234344352353344342	2141
4633231233	265344453245453266424334543253254345453342353452	2142
3123241242	333445444443345565343424543433354245454344443442	2143
8343342122	222266375224463676564422762664475227422264542371	2144
2223222213	151535353353362566253123531265152256231123161761	2145
4433232242	242255255524533363265522663533335255453353543361	2146
3132241432	232344563364455663455236524254364356522256552632	2147
1223231442	231267166546174765572574663234275554251153262171	2148
3223331122	242435264553223665353423532354332346452235365562	2149
3133221122	233343463644263556343413652333254356352232242552	2150























# MEAN SCORES AND STANDARD DEVIATIONS

## UNION GROUP: BUSINESS EXECUTIVE

ANS

2.74	2.79	2.62	2.98	4.28	4.68	4.02	4.96	4.21	4.74
4.02	4.23	2.91	4.98	3.62	3.70	4.94	3.79	3.68	4.47
2.94	4.23	3.23	3.36	5.26	4.70	3.30	3.72	2.51	3.26
2.96	5.04	3.83	2.47	3.98	5.02	3.47	3.68	3.64	2.74
4.70	3.66	3.36	4.09	3.02	3.55	5.00	2.87		

## STANDARD DEVIATIONS

1.44	1.32	1.47	1.60	1.70	1.63	1.59	1.44	1.68	1.60
1.93	1.75	1.61	1.78	1.85	2.07	1.64	1.76	2.03	1.87
1.77	1.92	1.90	1.78	1.55	1.96	1.66	1.98	1.56	1.58
1.46	1.87	1.88	1.58	1.72	1.48	1.83	2.04	1.93	1.54
1.51	1.65	1.68	1.74	1.78	1.69	1.64	1.55		

Note: Read all figures across







# MEAN SCORES AND STANDARD DEVIATIONS

## BUSINESS GROUP: BUSINESS EXECUTIVE

1.90	2.20	2.90	1.86	5.63	5.69	2.41	6.24	5.76	5.53
2.29	4.88	2.08	5.61	5.25	6.06	6.14	2.73	3.18	5.67
1.90	5.98	1.65	2.04	6.43	6.49	1.84	4.35	2.82	1.92
2.53	6.08	5.69	1.69	3.06	6.24	2.43	2.78	4.14	1.84
5.82	1.88	2.08	5.69	2.73	2.51	5.84	2.06		

## STANDARD DEVIATIONS

0.66	0.93	1.39	0.79	1.14	1.09	1.07	0.94	0.92	1.19
1.16	1.11	0.79	1.31	1.43	1.00	0.77	1.36	1.90	0.94
0.91	0.80	0.65	1.01	0.53	0.61	0.50	1.71	1.08	0.68
0.96	0.65	1.13	0.61	1.16	0.58	1.03	1.24	1.89	0.64
0.94	0.90	0.93	0.80	0.99	0.89	1.09	0.89		







# MEAN SCORES AND STANDARD DEVIATIONS

## UNION GROUP: UNION LEADER

NS

2.32	2.15	2.21	1.94	5.32	5.45	2.60	5.77	5.51	4.91
2.40	5.11	2.26	4.57	4.28	5.53	5.74	3.04	4.70	4.30
2.00	5.74	1.83	2.11	5.87	5.89	2.02	5.43	2.51	1.98
2.85	5.15	5.49	2.15	2.53	5.98	2.11	2.68	3.72	1.94
5.51	2.32	2.66	5.28	2.87	3.06	5.62	2.19		

## STANDARD DEVIATIONS

1.29	1.27	1.30	1.39	1.65	1.35	1.48	1.19	1.56	1.77
1.58	1.55	1.25	1.87	2.08	1.75	1.31	1.64	2.14	1.74
1.19	1.28	1.26	1.26	1.33	1.51	1.18	1.69	1.25	0.98
1.20	1.57	1.65	1.25	1.47	1.14	1.29	1.46	2.01	1.14
1.35	1.17	1.36	1.28	1.12	1.41	1.33	1.04		

Note: Read all figures across







# MEAN SCORES AND STANDARD DEVIATIONS

## BUSINESS GROUP: UNION LEADER

URS

2.04	3.27	2.29	2.53	4.39	4.75	3.67	5.63	4.73	3.69
3.90	4.33	2.86	4.94	3.10	5.53	5.47	4.47	2.94	4.53
3.39	3.82	2.22	3.08	5.43	4.69	2.27	3.18	4.27	3.76
2.39	5.22	3.80	2.69	4.14	5.78	3.41	3.80	2.86	2.20
4.18	3.37	3.29	5.02	2.24	4.20	4.96	1.78		

## STANDARD DEVIATIONS

0.95	1.33	1.11	1.29	1.40	1.43	1.29	0.93	1.62	1.42
1.49	1.08	1.17	1.41	1.43	1.59	1.14	1.54	1.50	1.47
1.31	1.53	1.27	1.30	0.98	1.39	1.09	1.76	1.50	1.29
1.14	1.50	1.36	1.29	1.33	1.09	1.19	1.72	1.56	0.91
1.34	1.67	1.40	1.11	0.98	1.69	1.20	1.05		







# EIGENVALUES

## UNION GROUP: BUSINESS EXECUTIVE

### EIGENVALUES

16.552	4.964	2.731	2.302	2.179	1.895	1.783	1.602	1.467	1.305
1.117	1.076	0.881	0.853	0.772	0.744	0.626	0.600	0.542	0.494
0.392	0.351	0.335	0.314	0.295	0.258	0.230	0.209	0.173	0.163
0.132	0.131	0.101	0.089	0.086	0.060	0.049	0.040	0.027	0.024
0.019	0.017	0.008	0.005	0.003	0.001	0.000	-0.000		

## BUSINESS GROUP: BUSINESS EXECUTIVE

### EIGENVALUES

11.468	4.946	2.825	2.591	2.345	2.158	1.880	1.741	1.582	1.371
1.329	1.266	1.165	1.084	1.016	0.924	0.886	0.797	0.745	0.633
0.594	0.494	0.461	0.416	0.398	0.363	0.337	0.313	0.267	0.245
0.208	0.200	0.178	0.145	0.123	0.107	0.097	0.075	0.063	0.049
0.036	0.032	0.018	0.011	0.008	0.005	0.003	0.000		







# EIGENVALUES

## UNION GROUP: UNION LEADER

### EIGENVALUES

14.608	5.620	3.447	2.890	2.079	1.914	1.752	1.401	1.235	1.153
1.125	1.036	0.972	0.880	0.846	0.763	0.715	0.659	0.541	0.514
0.491	0.429	0.392	0.354	0.320	0.280	0.271	0.216	0.182	0.158
0.127	0.115	0.106	0.089	0.079	0.062	0.056	0.029	0.026	0.022
0.016	0.014	0.008	0.006	0.003	0.001	0.000	-0.000		

## BUSINESS GROUP: UNION LEADER

### EIGENVALUES

11.980	6.930	3.444	2.877	1.971	1.884	1.652	1.505	1.430	1.194
1.120	1.079	1.017	0.955	0.897	0.744	0.667	0.644	0.576	0.548
0.527	0.508	0.475	0.429	0.372	0.350	0.308	0.272	0.229	0.213
0.190	0.181	0.128	0.119	0.101	0.093	0.080	0.070	0.061	0.045
0.037	0.031	0.025	0.013	0.008	0.007	0.004	0.001		







## UNROTATED FACTOR MATRIX

## UNION GROUP: BUSINESS EXECUTIVE

COMMUNALITIES	1	2	3	4	5	
1	0.765	-0.665	-0.339	0.014	0.212	-0.105
2	0.678	-0.497	-0.041	-0.029	-0.061	0.222
3	0.801	-0.195	-0.090	0.379	0.656	-0.109
4	0.852	-0.558	-0.056	0.281	0.416	0.179
5	0.733	0.476	-0.134	-0.191	-0.001	-0.065
6	0.783	0.669	-0.131	-0.386	-0.124	-0.199
7	0.806	-0.477	0.019	-0.279	0.330	0.411
8	0.752	0.600	0.280	-0.295	-0.152	-0.226
9	0.694	0.373	-0.244	-0.452	-0.159	0.222
10	0.799	0.442	-0.045	-0.343	0.293	-0.246
11	0.794	-0.643	0.321	-0.194	0.315	0.110
12	0.879	0.635	-0.022	-0.386	-0.163	-0.246
13	0.743	-0.677	-0.146	-0.042	0.347	-0.037
14	0.691	0.556	0.374	-0.346	0.195	-0.147
15	0.717	0.218	-0.613	-0.318	0.106	0.175
16	0.769	0.395	0.114	-0.473	0.088	0.218
17	0.761	0.759	0.204	-0.075	0.168	0.069
18	0.797	-0.587	0.043	0.116	-0.470	0.242
19	0.609	0.233	-0.446	0.123	0.132	-0.383
20	0.720	0.422	0.299	0.173	0.081	-0.036
21	0.564	-0.529	0.054	-0.041	-0.236	-0.117
22	0.815	0.667	-0.520	-0.031	0.130	0.125
23	0.715	-0.706	-0.226	0.101	-0.021	-0.251
24	0.815	-0.695	0.180	-0.175	-0.101	0.239
25	0.787	0.778	0.056	-0.102	0.150	0.054
26	0.649	0.595	-0.358	0.092	0.290	-0.069
27	0.852	-0.718	0.020	-0.270	0.091	-0.334
28	0.808	0.571	-0.597	0.010	-0.081	0.065
29	0.783	-0.468	-0.214	-0.192	0.002	0.475
30	0.796	-0.772	0.054	-0.285	0.011	-0.220
31	0.844	-0.088	-0.812	-0.036	0.048	-0.008
32	0.863	0.619	0.364	-0.201	0.276	-0.108
33	0.801	0.651	-0.451	0.021	-0.118	-0.112
34	0.772	-0.691	-0.324	-0.116	0.027	-0.095
35	0.795	-0.661	0.262	-0.304	0.122	0.175
36	0.707	0.619	0.118	-0.102	0.187	0.258
37	0.933	-0.826	0.091	-0.428	0.082	0.027
38	0.790	-0.431	0.001	-0.546	-0.270	0.169
39	0.662	0.228	-0.505	-0.010	-0.409	-0.223
40	0.876	-0.819	-0.337	-0.153	-0.085	-0.153
41	0.680	0.606	-0.062	0.035	0.209	0.282
42	0.716	-0.670	0.150	-0.198	0.128	-0.385
43	0.774	-0.758	-0.173	-0.263	0.173	-0.117
44	0.767	0.670	0.063	0.098	-0.152	0.402
45	0.769	-0.113	-0.745	-0.052	0.186	0.246
46	0.636	-0.645	0.029	0.234	-0.184	0.249
47	0.831	0.808	0.138	-0.169	0.177	0.079
48	0.837	-0.048	-0.766	-0.133	0.021	0.065
	36.781	16.552	4.964	2.731	2.302	2.179







LOADING FACTOR MATRIX

BUSINESS GROUP: BUSINESS EXECUTIVE

COMMUNITIES		1	2	3	4	5
1	0.580	-0.456	0.495	-0.044	0.108	0.195
2	0.711	-0.648	-0.117	0.325	0.217	0.242
3	0.753	0.105	0.125	-0.028	0.017	0.379
4	0.578	-0.225	0.289	0.455	0.267	-0.126
5	0.653	0.541	0.276	0.019	0.005	0.137
6	0.811	0.503	0.316	0.445	0.345	0.099
7	0.820	-0.430	-0.089	-0.277	-0.056	-0.346
8	0.812	0.578	-0.345	0.416	-0.234	0.100
9	0.548	0.543	-0.046	-0.109	0.298	0.183
10	0.680	0.513	0.495	-0.038	-0.033	-0.074
11	0.685	-0.630	-0.213	0.083	-0.047	0.139
12	0.472	0.121	-0.278	-0.076	0.227	0.487
13	0.561	-0.522	0.221	-0.045	0.271	0.180
14	0.595	0.193	-0.503	0.294	0.185	-0.129
15	0.621	0.406	0.271	0.080	0.004	0.135
16	0.814	0.419	-0.402	-0.233	-0.073	0.507
17	0.777	0.530	-0.096	0.519	-0.370	0.014
18	0.516	-0.342	-0.083	0.049	0.562	0.037
19	0.765	0.114	0.602	0.104	-0.078	0.186
20	0.685	0.120	-0.336	0.566	-0.380	-0.151
21	0.608	-0.646	0.325	0.126	0.072	-0.029
22	0.785	0.656	0.333	-0.147	0.169	-0.197
23	0.503	-0.439	0.180	-0.042	0.274	0.103
24	0.769	-0.679	-0.372	0.021	-0.161	0.090
25	0.802	0.522	-0.050	-0.007	0.150	-0.273
26	0.668	0.654	0.173	-0.163	0.029	-0.274
27	0.584	-0.545	0.190	0.041	0.110	-0.256
28	0.703	0.556	0.449	0.013	-0.104	0.190
29	0.628	-0.304	-0.239	0.159	0.232	0.051
30	0.667	-0.719	0.034	0.243	0.103	0.150
31	0.680	-0.030	0.715	-0.104	-0.153	0.126
32	0.730	0.310	-0.058	0.182	0.022	0.076
33	0.805	0.565	0.580	-0.137	0.061	-0.223
34	0.673	-0.616	0.219	-0.195	0.392	0.098
35	0.610	-0.523	-0.186	0.047	-0.229	-0.036
36	0.667	0.419	-0.271	-0.603	-0.101	0.046
37	0.685	-0.680	0.136	0.086	-0.315	-0.187
38	0.820	-0.403	-0.221	-0.165	-0.508	0.305
39	0.670	0.265	0.298	0.311	-0.284	0.485
40	0.724	-0.535	0.550	0.114	-0.183	0.144
41	0.737	0.588	0.120	0.410	0.025	0.151
42	0.844	-0.572	0.512	0.222	0.012	-0.226
43	0.683	-0.568	0.005	-0.415	-0.062	0.267
44	0.701	0.335	-0.261	0.191	0.509	0.053
45	0.667	-0.176	0.521	-0.033	-0.249	0.300
46	0.747	-0.674	-0.158	0.272	0.107	-0.150
47	0.645	0.317	0.118	-0.116	-0.113	-0.376
48	0.663	-0.580	0.226	0.077	-0.337	-0.257
	32.907	11.468	4.946	2.825	2.591	2.345







## UNROTATED FACTOR MATRIX

UNION GROUP: UNION LEADER

COMMUNALITIES	1	2	3	4	5	
1	0.709	0.649	0.308	-0.073	-0.312	-0.151
2	0.817	0.519	0.054	-0.568	0.079	0.278
3	0.617	0.155	0.203	-0.309	0.141	-0.006
4	0.746	0.599	0.316	-0.143	0.186	0.186
5	0.771	-0.655	0.359	-0.169	0.325	0.058
6	0.804	-0.623	0.225	-0.135	0.230	0.449
7	0.683	0.392	0.391	0.404	0.343	0.136
8	0.846	-0.434	0.462	-0.441	-0.078	0.187
9	0.754	-0.585	0.127	-0.380	-0.034	-0.232
10	0.739	-0.533	0.444	0.217	-0.316	-0.007
11	0.687	0.482	0.029	-0.440	0.319	0.156
12	0.856	-0.545	0.183	-0.507	-0.472	0.054
13	0.764	0.759	0.234	-0.240	-0.096	-0.060
14	0.690	-0.252	-0.065	-0.375	-0.116	0.097
15	0.664	-0.230	0.656	0.088	-0.107	-0.185
16	0.559	-0.485	0.408	-0.133	0.233	-0.034
17	0.852	-0.724	0.274	0.141	0.398	-0.013
18	0.750	0.370	-0.042	0.102	0.608	0.250
19	0.709	-0.348	0.553	0.074	-0.106	-0.190
20	0.695	-0.436	-0.041	-0.147	0.329	-0.507
21	0.789	0.569	0.167	-0.386	0.017	-0.401
22	0.787	-0.613	0.439	0.127	0.185	0.080
23	0.819	0.357	0.686	0.199	0.050	-0.128
24	0.875	0.794	0.278	-0.356	-0.047	-0.010
25	0.860	-0.597	0.023	-0.436	0.225	0.008
26	0.826	-0.844	0.072	-0.013	0.262	-0.014
27	0.760	0.384	0.400	-0.002	0.171	-0.282
28	0.820	-0.505	0.609	-0.185	-0.033	0.140
29	0.818	0.304	-0.228	0.045	0.546	-0.328
30	0.748	0.715	-0.122	-0.410	-0.013	-0.051
31	0.695	0.142	0.616	0.430	-0.115	0.042
32	0.818	-0.460	-0.232	-0.346	0.246	-0.459
33	0.812	-0.819	0.292	-0.057	-0.036	-0.001
34	0.725	0.592	0.404	-0.002	0.062	0.324
35	0.680	0.657	0.263	-0.059	0.114	0.318
36	0.797	-0.536	0.193	0.050	0.381	0.021
37	0.794	0.764	0.320	-0.285	-0.080	-0.023
38	0.754	0.620	0.122	-0.167	0.110	-0.076
39	0.680	-0.111	0.328	-0.306	-0.115	-0.059
40	0.851	0.612	0.568	0.030	0.110	0.243
41	0.714	-0.775	0.122	-0.103	0.219	0.168
42	0.694	0.583	0.109	0.254	0.235	-0.159
43	0.644	0.469	0.331	-0.139	0.197	-0.273
44	0.789	-0.555	0.176	-0.207	-0.519	-0.000
45	0.651	-0.094	0.641	0.218	0.011	-0.396
46	0.677	0.479	0.174	-0.231	0.015	-0.172
47	0.754	-0.821	0.083	-0.067	-0.005	0.024
48	0.752	0.282	0.472	0.432	-0.330	-0.063
36.099	14.608	5.620	3.447	2.890	2.079	







## UNROTATED FACTOR MATRIX

BUSINESS GROUP: UNION LEADER

COMMUNALITIES		1	2	3	4	5
1	0.749	0.137	0.669	-0.313	0.182	0.274
2	0.638	-0.751	0.070	-0.159	0.093	-0.115
3	0.714	-0.001	0.627	-0.407	0.158	0.005
4	0.711	-0.339	0.332	-0.306	-0.400	-0.249
5	0.799	0.727	0.101	-0.268	-0.052	-0.004
6	0.715	0.562	-0.147	-0.440	0.065	0.192
7	0.729	-0.318	-0.344	-0.103	-0.154	-0.264
8	0.756	0.183	-0.565	-0.466	-0.050	-0.109
9	0.744	0.325	-0.351	-0.277	0.605	-0.126
10	0.644	0.737	0.018	0.014	0.134	-0.051
11	0.761	-0.723	-0.186	-0.089	0.245	0.117
12	0.738	0.368	-0.081	-0.339	-0.014	0.026
13	0.703	-0.067	0.203	-0.336	-0.550	-0.162
14	0.759	0.128	-0.455	-0.349	-0.051	0.215
15	0.721	0.685	0.157	-0.183	0.091	-0.320
16	0.681	0.014	-0.287	-0.441	0.264	0.134
17	0.739	0.581	-0.149	-0.252	-0.438	0.272
18	0.669	-0.605	-0.058	-0.397	-0.090	0.191
19	0.739	0.653	0.325	-0.198	0.159	-0.132
20	0.702	0.633	-0.152	-0.299	-0.092	0.087
21	0.717	-0.320	0.487	-0.315	-0.397	0.142
22	0.720	0.708	0.176	-0.230	0.007	-0.143
23	0.671	0.108	0.577	-0.030	0.284	0.320
24	0.873	-0.695	0.098	-0.326	0.399	-0.058
25	0.776	0.574	-0.193	-0.329	-0.429	0.080
26	0.758	0.813	-0.083	0.045	0.095	0.172
27	0.735	-0.183	0.542	-0.190	-0.105	0.308
28	0.827	0.606	0.091	-0.013	-0.148	-0.600
29	0.853	-0.671	-0.269	-0.394	0.081	0.235
30	0.751	-0.762	-0.012	-0.106	-0.145	-0.004
31	0.694	0.376	0.522	-0.248	0.121	-0.079
32	0.761	0.045	-0.638	-0.421	0.158	0.067
33	0.778	0.771	0.157	0.001	-0.121	-0.181
34	0.517	-0.128	0.424	-0.219	-0.123	0.161
35	0.722	-0.474	-0.130	-0.063	0.448	0.097
36	0.772	0.076	-0.616	-0.191	-0.097	0.012
37	0.664	-0.659	0.184	-0.154	0.149	-0.320
38	0.765	-0.127	-0.088	-0.347	0.275	-0.559
39	0.690	0.456	0.285	0.078	0.202	-0.095
40	0.843	0.090	0.790	-0.228	0.030	-0.004
41	0.757	0.820	-0.140	-0.068	0.064	0.104
42	0.690	-0.509	0.227	-0.355	-0.304	-0.215
43	0.727	-0.356	0.444	0.042	-0.403	0.007
44	0.687	-0.065	-0.715	-0.241	0.097	-0.102
45	0.713	0.242	0.694	0.001	0.340	0.086
46	0.766	-0.683	-0.177	-0.365	-0.085	-0.091
47	0.528	0.451	-0.376	-0.127	-0.119	0.233
48	0.703	-0.121	0.586	-0.341	0.283	-0.088
34.867		11.980	6.930	3.444	2.877	1.971







## APPENDIX C

Rotated Communalities,  
Scale Loadings, and  
Eigenvalues







## COMMUNALITIES, SCALE LOADINGS AND EIGENVALUES

## AFTER VARIMAX ROTATION

## UNION GROUP: BUSINESS EXECUTIVE

COMMUNALITIES	1	2	3	4	5	
1	0.765	0.611	-0.334	0.181	-0.162	0.174
2	0.678	0.369	-0.006	-0.068	-0.643	-0.015
3	0.801	0.104	-0.095	-0.034	0.030	0.027
4	0.852	0.172	-0.361	-0.032	-0.156	0.524
5	0.733	-0.199	0.231	0.081	0.120	-0.122
6	0.783	-0.227	0.183	0.119	0.618	-0.155
7	0.806	0.226	0.089	0.199	-0.092	0.685
8	0.752	-0.263	0.324	-0.271	0.422	0.077
9	0.694	-0.149	0.077	0.135	0.239	-0.013
10	0.799	-0.065	0.151	0.025	0.766	-0.193
11	0.794	0.394	-0.052	-0.164	-0.017	0.662
12	0.879	-0.147	0.588	-0.030	0.221	-0.147
13	0.743	0.556	-0.178	0.107	-0.176	0.060
14	0.691	-0.107	0.705	-0.235	0.279	-0.022
15	0.717	-0.103	0.207	0.722	0.132	0.136
16	0.769	-0.130	0.529	-0.024	0.022	-0.044
17	0.761	-0.511	0.661	-0.001	0.176	-0.102
18	0.797	0.159	-0.508	-0.138	-0.549	0.168
19	0.609	0.052	0.034	0.357	0.104	-0.187
20	0.720	-0.255	0.168	-0.157	0.114	-0.035
21	0.564	0.303	-0.243	-0.170	-0.146	0.291
22	0.815	-0.374	0.174	0.482	0.210	-0.218
23	0.715	0.610	-0.455	0.121	-0.213	0.057
24	0.815	0.391	-0.294	-0.188	-0.324	0.643
25	0.787	-0.480	0.307	0.033	0.514	-0.184
26	0.649	-0.296	0.218	0.318	0.253	-0.168
27	0.852	0.865	-0.106	-0.163	-0.136	0.131
28	0.808	-0.353	0.278	0.573	-0.047	-0.290
29	0.783	0.170	-0.299	0.115	-0.294	0.571
30	0.796	0.798	-0.108	-0.084	-0.189	0.228
31	0.844	0.216	-0.192	0.835	-0.020	-0.166
32	0.863	-0.117	0.720	-0.194	0.177	-0.185
33	0.801	-0.256	0.300	0.417	0.027	-0.434
34	0.772	0.715	-0.204	0.217	-0.401	0.002
35	0.795	0.543	0.012	-0.125	-0.192	0.273
36	0.707	-0.454	0.648	0.170	0.006	-0.059
37	0.933	0.743	-0.056	-0.010	-0.235	0.451
38	0.790	0.406	-0.302	0.015	0.087	0.335
39	0.662	-0.077	-0.119	0.312	0.084	-0.263
40	0.876	0.714	-0.434	0.157	-0.182	0.110
41	0.680	-0.420	0.243	0.136	0.153	-0.135
42	0.716	0.682	-0.225	-0.170	0.151	0.182
43	0.774	0.766	-0.143	0.161	-0.163	0.106
44	0.767	-0.647	0.183	-0.010	0.001	-0.070
45	0.769	0.090	-0.095	0.831	-0.087	-0.045
46	0.636	0.244	-0.321	-0.067	-0.623	0.084
47	0.831	-0.459	0.718	0.025	0.167	-0.061
48	0.837	0.022	-0.269	0.795	0.167	0.195
36.781	8.578	5.382	4.291	3.768	3.349	







## COMMUNALITIES, SCALE LOADINGS AND EIGENVALUES

## AFTER VARIMAX ROTATION

BUSINESS GROUP: BUSINESS EXECUTIVE

COMMUNALITIES	1	2	3	4	5	
1	0.580	-0.105	0.325	0.416	0.329	0.156
2	0.711	-0.641	0.106	0.163	0.117	0.388
3	0.753	-0.038	-0.120	0.112	-0.003	0.035
4	0.578	-0.021	0.206	0.031	0.050	0.702
5	0.653	0.625	-0.225	-0.141	0.207	0.074
6	0.811	0.297	0.003	-0.106	0.148	0.225
7	0.820	-0.110	0.128	0.167	-0.049	0.107
8	0.812	-0.035	-0.239	-0.692	-0.040	-0.225
9	0.548	0.494	-0.458	0.000	-0.186	-0.028
10	0.680	0.623	0.198	-0.061	0.071	-0.201
11	0.685	-0.543	0.102	0.041	0.069	0.129
12	0.472	-0.087	-0.605	0.029	0.113	-0.028
13	0.561	-0.151	0.061	0.351	0.303	0.201
14	0.595	-0.034	-0.231	-0.381	-0.483	0.113
15	0.621	0.575	-0.018	-0.111	-0.172	0.105
16	0.814	-0.115	-0.661	-0.167	0.047	-0.485
17	0.777	0.173	-0.155	-0.794	0.126	0.095
18	0.516	-0.126	-0.080	0.391	-0.189	0.393
19	0.765	0.159	0.058	0.031	0.790	0.070
20	0.685	-0.109	0.109	-0.767	-0.204	0.054
21	0.608	-0.226	0.523	0.300	0.187	0.224
22	0.785	0.605	-0.041	0.114	-0.044	-0.012
23	0.503	-0.088	0.096	0.302	0.047	0.170
24	0.769	-0.664	0.156	0.033	-0.069	-0.003
25	0.802	0.261	-0.081	-0.215	-0.066	-0.264
26	0.668	0.492	-0.072	-0.120	-0.016	-0.271
27	0.584	-0.218	0.365	0.203	0.098	0.160
28	0.703	0.680	-0.148	-0.197	0.202	-0.003
29	0.628	-0.185	-0.304	0.013	-0.080	0.559
30	0.667	-0.547	0.193	0.159	0.169	0.373
31	0.680	0.417	0.210	0.182	0.418	0.158
32	0.730	0.036	0.037	-0.056	-0.057	-0.000
33	0.805	0.813	0.055	0.005	0.228	-0.053
34	0.678	-0.234	0.144	0.632	0.103	0.193
35	0.610	-0.522	0.256	0.040	-0.112	-0.024
36	0.667	0.110	-0.368	0.118	-0.130	-0.654
37	0.685	-0.287	0.560	0.013	0.105	0.123
38	0.820	-0.301	0.128	-0.028	0.042	-0.305
39	0.670	0.194	-0.079	-0.390	0.352	0.002
40	0.724	-0.118	0.536	0.177	0.531	0.089
41	0.737	0.373	-0.282	-0.436	0.288	0.188
42	0.844	-0.097	0.764	0.234	0.257	0.229
43	0.683	-0.360	0.079	0.460	0.252	-0.237
44	0.701	-0.119	-0.270	0.049	-0.189	0.081
45	0.667	0.066	0.081	0.011	0.751	-0.026
46	0.747	-0.532	0.182	0.023	-0.098	0.454
47	0.645	0.124	-0.032	-0.086	0.095	-0.021
48	0.663	-0.272	0.717	0.032	0.096	-0.074
32.907	6.390	4.260	3.901	2.990	2.989	







COMMUNALITIES, SCALE LOADINGS AND EIGENVALUES

AFTER VARIMAX ROTATION

UNION GROUP: UNION LEADER

COMMUNALITIES	1	2	3	4	5	
1	0.709	-0.313	0.670	0.053	0.305	-0.218
2	0.817	0.017	0.667	-0.091	-0.361	-0.343
3	0.617	0.088	0.262	0.047	0.035	-0.040
4	0.746	-0.167	0.366	0.380	0.053	-0.122
5	0.771	0.758	-0.226	-0.206	0.118	0.104
6	0.804	0.612	-0.396	-0.026	-0.079	-0.070
7	0.683	0.132	0.181	0.534	0.253	-0.359
8	0.846	0.615	0.133	-0.203	-0.043	0.079
9	0.754	0.443	-0.037	-0.559	0.113	0.316
10	0.739	0.404	-0.242	-0.090	0.431	-0.027
11	0.687	0.086	0.566	0.190	-0.371	-0.160
12	0.856	0.351	0.053	-0.708	0.012	0.037
13	0.764	-0.269	0.753	0.182	0.094	-0.216
14	0.690	0.094	0.006	-0.152	-0.088	0.135
15	0.664	0.353	0.082	0.027	0.668	0.019
16	0.559	0.707	0.003	-0.139	0.160	0.061
17	0.852	0.717	-0.402	0.132	0.124	0.250
18	0.750	0.013	0.038	0.313	-0.177	-0.221
19	0.709	0.334	-0.026	-0.170	0.629	0.045
20	0.695	0.232	-0.231	-0.155	0.082	0.666
21	0.789	-0.160	0.799	0.173	0.034	0.267
22	0.787	0.683	-0.327	0.123	0.215	0.039
23	0.819	0.105	0.376	0.270	0.568	-0.116
24	0.875	-0.215	0.842	0.132	0.011	-0.206
25	0.860	0.528	-0.105	-0.019	-0.297	0.507
26	0.826	0.674	-0.457	-0.084	-0.051	0.329
27	0.760	0.058	0.399	0.107	0.254	0.089
28	0.820	0.748	0.032	-0.178	0.269	-0.141
29	0.818	-0.102	0.118	0.195	-0.081	0.154
30	0.748	-0.433	0.640	0.016	-0.205	-0.025
31	0.695	0.022	-0.070	0.171	0.628	-0.282
32	0.818	0.186	-0.127	-0.032	-0.188	0.827
33	0.812	0.700	-0.302	-0.319	0.143	0.132
34	0.725	-0.102	0.341	0.403	0.147	-0.440
35	0.680	-0.150	0.456	0.409	-0.016	-0.360
36	0.797	0.576	-0.231	-0.118	0.131	0.080
37	0.794	-0.300	0.709	0.183	0.136	-0.156
38	0.754	-0.280	0.421	0.050	-0.021	0.009
39	0.680	0.104	0.011	-0.145	0.167	0.154
40	0.851	-0.029	0.408	0.521	0.228	-0.337
41	0.714	0.662	-0.422	-0.180	-0.096	0.153
42	0.694	-0.316	0.233	0.653	0.206	0.038
43	0.644	-0.072	0.467	0.477	0.190	0.208
44	0.789	0.191	-0.184	-0.684	0.260	0.014
45	0.651	0.276	0.092	0.014	0.713	0.094
46	0.677	-0.163	0.577	0.007	0.087	-0.009
47	0.754	0.566	-0.421	-0.434	0.028	0.168
48	0.752	-0.241	0.002	0.045	0.706	-0.362
	36.099	7.531	7.269	4.002	3.992	3.142







## COMMUNALITIES, SCALE LOADINGS AND EIGENVALUES

## AFTER VARIMAX ROTATION

## BUSINESS GROUP: UNION LEADER

COMMUNALITIES	1	2	3	4	5	
1	0.749	0.102	0.752	0.188	0.083	-0.037
2	0.638	-0.639	0.072	0.166	-0.012	0.382
3	0.714	0.006	0.809	0.122	0.010	0.128
4	0.711	-0.193	0.103	0.236	-0.163	0.176
5	0.799	0.597	0.191	-0.102	0.015	-0.090
6	0.715	0.425	-0.009	0.017	0.180	-0.113
7	0.729	-0.191	-0.197	0.068	0.201	0.126
8	0.756	0.149	-0.242	-0.093	0.588	0.131
9	0.744	0.165	0.117	-0.439	0.160	0.248
10	0.644	0.702	0.068	-0.217	0.147	-0.104
11	0.761	-0.678	-0.066	0.212	-0.091	0.131
12	0.738	0.290	-0.014	0.100	0.119	0.104
13	0.703	-0.038	0.223	0.150	0.034	-0.076
14	0.759	-0.049	-0.090	-0.118	0.825	0.027
15	0.721	0.769	0.192	-0.100	0.168	0.201
16	0.681	-0.066	-0.033	0.011	0.062	-0.019
17	0.739	0.401	-0.020	-0.043	0.364	-0.496
18	0.669	-0.680	0.039	0.157	0.165	0.125
19	0.739	0.740	0.284	0.135	-0.025	0.127
20	0.702	0.437	0.027	-0.337	0.351	-0.213
21	0.717	-0.199	0.317	0.634	-0.069	0.002
22	0.720	0.767	0.102	0.072	0.051	0.073
23	0.671	0.106	0.474	0.202	-0.080	-0.062
24	0.873	-0.579	0.282	0.186	0.138	0.468
25	0.776	0.445	-0.138	-0.101	0.358	-0.295
26	0.758	0.597	0.073	-0.373	0.210	-0.301
27	0.735	-0.038	0.350	0.724	-0.197	-0.109
28	0.827	0.687	-0.038	-0.319	-0.187	0.211
29	0.853	-0.748	0.046	0.194	0.183	0.078
30	0.751	-0.556	-0.156	0.494	0.014	0.240
31	0.694	0.469	0.493	0.147	-0.031	0.113
32	0.761	-0.093	-0.131	-0.192	0.598	0.031
33	0.778	0.851	0.084	0.062	0.078	-0.024
34	0.517	-0.087	0.249	0.303	0.097	0.121
35	0.722	-0.602	0.026	-0.254	-0.261	0.103
36	0.772	-0.007	-0.340	0.005	0.224	-0.042
37	0.664	-0.470	0.191	0.132	-0.129	0.471
38	0.765	-0.008	-0.015	-0.055	0.053	0.825
39	0.690	0.344	0.428	-0.421	-0.312	-0.239
40	0.843	0.116	0.841	0.044	-0.099	-0.055
41	0.757	0.665	0.063	-0.237	0.158	-0.211
42	0.690	-0.253	0.036	0.562	-0.057	0.353
43	0.727	-0.143	0.177	0.452	-0.209	-0.159
44	0.687	-0.146	-0.499	-0.113	0.191	0.232
45	0.713	0.268	0.700	-0.001	-0.171	-0.056
46	0.766	-0.712	-0.005	0.018	0.170	0.316
47	0.528	0.349	-0.213	0.029	0.499	-0.202
48	0.703	-0.145	0.694	-0.059	-0.258	0.203
34.867	9.892	4.836	3.211	2.934	2.735	



























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